

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: TRUNG, DUC Examiner #: 69332 Date: 2/21/02
 Art Unit: 1711 Phone Number 308-2437 Serial Number: 09/529,573
 Mail Box and Bldg/Room Location: 3/AD 29 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____

Inventors (please provide full names): _____

Earliest Priority Filing Date: _____

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Formula of claim 13: (II) and/or (III). Thanks

STAFF USE ONLY

Searcher: ES

Searcher Phone #: _____

Searcher Location: _____

Date Searcher Picked Up: _____

Date Completed: 2-27-02

Searcher Prep & Review Time: 10

Clerical Prep Time: _____

Online Time: 70

Type of Search

NA Sequence (#) _____

AA Sequence (#) _____

Structure (#) (4)

Bibliographic _____

Litigation _____

Fulltext _____

Patent Family _____

Other _____

Vendors and cost where applicable

STN

\$259.69

Dialog

(4) (subsets)

Questel/Orbit _____

Dr. Link _____

Lexis/Nexis _____

Sequence Systems _____

WWW/Internet _____

Other (specify) _____

=> file reg

FILE 'REGISTRY' ENTERED AT 14:35:18 ON 27 FEB 2002
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STRUCTURE FILE UPDATES: 25 FEB 2002 HIGHEST RN 395638-68-3
DICTIONARY FILE UPDATES: 25 FEB 2002 HIGHEST RN 395638-68-3

TSCA INFORMATION NOW CURRENT THROUGH July 7, 2001

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Calculated physical property data is now available. See HELP PROPERTIES
for more information. See STNote 27, Searching Properties in the CAS
Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

The P indicator for Preparations was not generated for all of the
CAS Registry Numbers that were added to the H/Z/CA/CAPLUS files between
12/27/01 and 1/23/02. Use of the P indicator in online and SDI searches
during this period, either directly appended to a CAS Registry Number
or by qualifying an L-number with /P, may have yielded incomplete results.
As of 1/23/02, the situation has been resolved. Also, note that searches
conducted using the PREP role indicator were not affected.

Customers running searches and/or SDIs in the H/Z/CA/CAPLUS files
incorporating CAS Registry Numbers with the P indicator between 12/27/01
and 1/23/02, are encouraged to re-run these strategies. Contact the
CAS Help Desk at 1-800-848-6533 in North America or 1-614-447-3698,
worldwide, or send an e-mail to help@cas.org for further assistance or to
receive a credit for any duplicate searches.

=> d his

(FILE 'HOME' ENTERED AT 13:34:59 ON 27 FEB 2002)

FILE 'HCAPLUS' ENTERED AT 13:35:56 ON 27 FEB 2002

L1 10426 S HOLMES ?/AU
L2 302 S CHUAH ?/AU
L3 121 S CACIALLI ?/AU
L4 171 S MORATTI ?/AU
L5 11 S L1 AND L2 AND L3 AND L4
SEL L5 1-11 RN

FILE 'REGISTRY' ENTERED AT 13:37:08 ON 27 FEB 2002

L6 52 S E1-E52
L7 21 S L6 AND PMS/CI

FILE 'LREGISTRY' ENTERED AT 13:38:48 ON 27 FEB 2002

FILE 'REGISTRY' ENTERED AT 13:41:45 ON 27 FEB 2002
E (C16H22O2)N/MF

L8 15 S E3
L9 1 S L8 AND L7

FILE 'HCAPLUS' ENTERED AT 13:43:25 ON 27 FEB 2002
L10 10 S L9

FILE 'REGISTRY' ENTERED AT 13:46:01 ON 27 FEB 2002
E (C16H20O5)N/MF
L11 4 S E3
L12 1 S L11 AND L7

FILE 'HCAPLUS' ENTERED AT 13:52:03 ON 27 FEB 2002
L13 2 S L12

FILE 'LREGISTRY' ENTERED AT 13:52:21 ON 27 FEB 2002
L14 STR

FILE 'REGISTRY' ENTERED AT 14:05:23 ON 27 FEB 2002
L15 SCR 2043
L16 2 S L14 AND L15
L17 34 S L14 AND L15 FUL
SAV L17 TRU873/A

FILE 'LREGISTRY' ENTERED AT 14:12:41 ON 27 FEB 2002
L18 STR L14

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FILE 'REGISTRY' ENTERED AT 14:20:04 ON 27 FEB 2002
L19 10836 S SRU
L20 0 S L12 AND L19
L21 0 S L9 AND L19
L22 0 S L17 AND L19
L23 16 S L17 AND 1/NC

FILE 'HCAPLUS' ENTERED AT 14:22:00 ON 27 FEB 2002
L24 22 S L23

FILE 'REGISTRY' ENTERED AT 14:22:29 ON 27 FEB 2002
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SAV L26 TRU873A/A

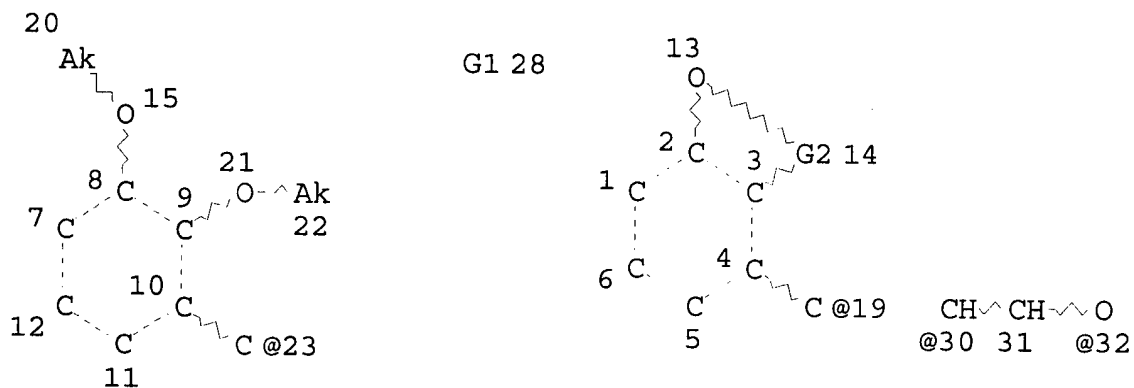
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L27 11 S L26
L28 24 S L17

L29 17 S L10 OR L13 OR L27
 L30 6 S L24 NOT L29
 L31 1 S L28 NOT (L29 OR L30)
 L32 7 S L30 OR L31

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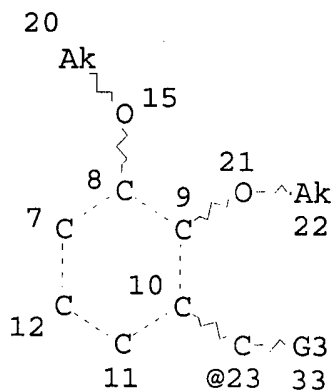
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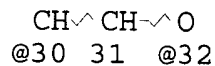
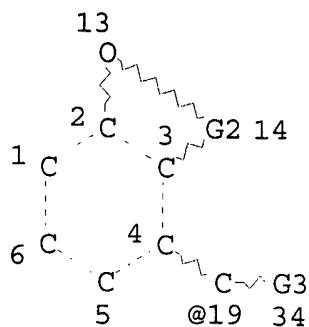
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 GGCAT IS SAT AT 20
 GGCAT IS SAT AT 22
 DEFAULT ECLEVEL IS LIMITED
 ECOUNT IS M3 C AT 20
 ECOUNT IS M3 C AT 22

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 24

STEREO ATTRIBUTES: NONE
 L15 SCR 2043
 L17 34 SEA FILE=REGISTRY SSS FUL L14 AND L15
 L18 STR



G1 28



VAR G1=19/23
 REP G2=(1-10) 30-13 32-3
 VAR G3=X/P
 NODE ATTRIBUTES:
 CONNECT IS E1 RC AT 20
 CONNECT IS E1 RC AT 22
 DEFAULT MLEVEL IS ATOM
 GGCAT IS SAT AT 20
 GGCAT IS SAT AT 22
 DEFAULT ECLEVEL IS LIMITED
 ECOUNT IS M3 C AT 20
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GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 26

STEREO ATTRIBUTES: NONE
 L26 14 SEA FILE=REGISTRY SUB=L17 SSS FUL L18

100.0% PROCESSED 34 ITERATIONS
 SEARCH TIME: 00.00.03

14 ANSWERS

=> file hcaplus

FILE 'HCAPLUS' ENTERED AT 14:35:59 ON 27 FEB 2002

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FILE COVERS 1907 - 27 Feb 2002 VOL 136 ISS 9
FILE LAST UPDATED: 26 Feb 2002 (20020226/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

The P indicator for Preparations was not generated for all of the CAS Registry Numbers that were added to the CAS files between 12/27/01 and 1/23/02. As of 1/23/02, the situation has been resolved. Searches and/or SDIs in the H/Z/CA/CAPLUS files incorporating CAS Registry Numbers with the P indicator executed between 12/27/01 and 1/23/02 may be incomplete. See the NEWS message on this topic for more information.

=> d 129 1-17 cbib abs hitstr hitrn

L29 ANSWER 1 OF 17 HCAPLUS COPYRIGHT 2002 ACS
2001:400113 Document No. 136:118804 New routes to monomers and polymers for LEDs. Holmes, Andrew B.; Martin, Rainer E.; Geneste, Florence; Fischmeister, Cedric; Cacialli, Franco; Riehn, Robert E.; Friend, Richard H. (Melville Laboratory for Polymer Synthesis, Department of Chemistry, University of Cambridge, Cambridge, CB2 3RA, UK). Proceedings of SPIE-The International Society for Optical Engineering, 4105(Organic Light-Emitting Materials and Devices IV), 53-58 (English) 2001. CODEN: PSISDG. ISSN: 0277-786X. Publisher: SPIE-The International Society for Optical Engineering.

AB A new route to the synthesis of poly(1,4-phenylenevinylene)s (PPVs) contg. a 2,3-dialkoxy substitution pattern was developed. Poly[2,3-bis(2-ethylhexyloxy)-1,4-phenylenevinylene] (BEH-PPV) was prepd. by Gilch polycondensation, and its optical properties were compared with those of poly(2,3-dibutoxy-1,4-phenylenevinylene) (DB-PPV). The precursors for the Gilch method have traditionally been prepd. by methods which have certain disadvantages. These can be overcome by the use of directed metalation reactions which are illustrated in the synthesis of some poly(2,5-disilyl-substituted 1,4-arylenevinylene) derivs.

IT 313998-47-9P
(versatile method for synthesis of monomers for prepn. of mono- and disubstituted poly(phenylenevinylene)s for LEDs)

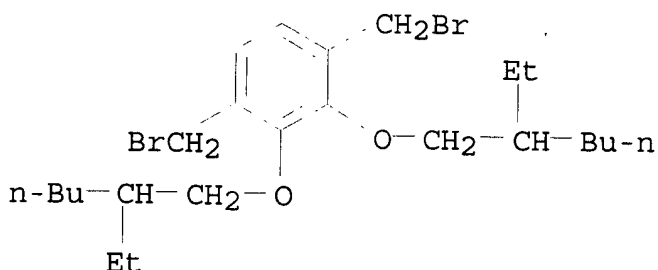
RN 313998-47-9 HCAPLUS

CN Benzene, 1,4-bis(bromomethyl)-2,3-bis[(2-ethylhexyl)oxy]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 313998-46-8

CMF C24 H40 Br2 O2



IT 313998-47-9P

(versatile method for synthesis of monomers for prepn. of mono- and disubstituted poly(phenylenevinylene)s for LEDs)

L29 ANSWER 2 OF 17 HCAPLUS COPYRIGHT 2002 ACS

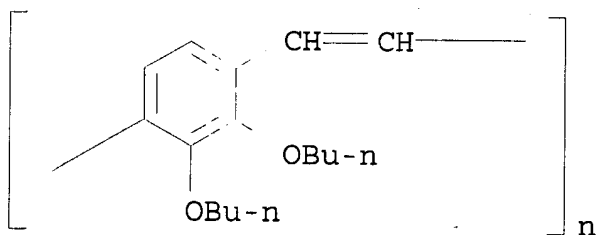
2001:376204 Document No. 135:172766 Polymer and small molecule multi-layer light-emitting diodes. Sano, T.; Tuan, C. S.; Martin, R. E.; Chuah, B. S.; Holmes, A. B. (Melville Laboratory for Polymer Synthesis, Department of Chemistry, University of Cambridge, Cambridge, CB2 1EW, UK). Synthetic Metals, 121(1-3), 1701-1702 (English) 2001. CODEN: SYMEDZ. ISSN: 0379-6779. Publisher: Elsevier Science S.A..

AB Small mol. electron-transport materials were used to improve luminous efficiency in polymer light-emitting diodes (PLEDs). 1,3-Bis[5-(p-t-butylphenyl)-1,3,4-oxadiazol-2-yl]benzene (OXD-7) and tris(8-hydroxyquinolinato)aluminum (Alq3) were employed as an electron-transport layer, which was deposited onto a spin-coated film of poly(2,3-dibutoxy-1,4-phenylene vinylene) (DB-PPV) in an electroluminescent device. Luminous efficiency was remarkably improved by incorporating an electron-transport layer, which can be explained with the energy-band scheme of the org. materials.

IT 208264-13-5, Poly(2,3-dibutoxy-1,4-phenylene vinylene)
(polymer and small mol. multi-layer light-emitting diodes)

RN 208264-13-5 HCAPLUS

CN Poly[(2,3-dibutoxy-1,4-phenylene)-1,2-ethenediyl] (9CI) (CA INDEX NAME)



IT 208264-13-5, Poly(2,3-dibutoxy-1,4-phenylene vinylene)
(polymer and small mol. multi-layer light-emitting diodes)

L29 ANSWER 3 OF 17 HCAPLUS COPYRIGHT 2002 ACS

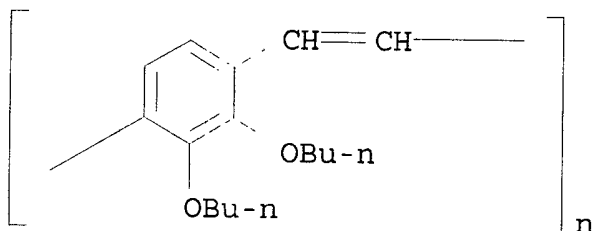
2001:355848 Document No. 135:123029 Muon-spin relaxation study of charge carrier dynamics in the conducting polymer PPV. Blundell, S. J.; Pratt, F. L.; Marshall, I. M.; Husmann, A.; Hayes, W.; Martin, R. E.; Holmes, A. B. (Claredon Laboratory, Parks Road, Oxford University Department of Physics, Oxford, OX1 3PU, UK). Synth. Met., 119(1-3), 205-206 (English) 2001. CODEN: SYMEDZ. ISSN: 0379-6779. Publisher: Elsevier Science S.A..

AB Muon-spin relaxation (.mu.SR) expts. on the conducting polymer poly(2,3-dibutoxy-1,4-phenylenevinylene) (DB-PPV) probe the dynamics of the highly mobile polarons created by the muon-implantation process in which muonium reacts with the polymer forming a radical state. The fluctuating spin d. induced by the electronic spin defect rapidly diffusing up and down the chain leads to a characteristic relaxation, the temp. and field dependence of which permit extn. of on-chain and interchain diffusion rates. These results provide information concerning the charge-transport mechanism in DB-PPV.

IT 208264-13-5, Poly(2,3-dibutoxy-1,4-phenylenevinylene)
(muon-spin relaxation study of charge carrier dynamics in elec. conducting poly(dibutoxyphenylenevinylene))

RN 208264-13-5 HCAPLUS

CN Poly[(2,3-dibutoxy-1,4-phenylene)-1,2-ethenediyl] (9CI) (CA INDEX NAME)



IT 208264-13-5, Poly(2,3-dibutoxy-1,4-phenylenevinylene)
(muon-spin relaxation study of charge carrier dynamics in elec. conducting poly(dibutoxyphenylenevinylene))

L29 ANSWER 4 OF 17 HCAPLUS COPYRIGHT 2002 ACS

2001:355771 Document No. 135:107952 Efficient electroluminescent poly(p-phenylene vinylene) copolymers for application in LEDs. Martin, Rainer E.; Geneste, Florence; Riehn, Robert; Chuah, Beng Sim; Cacialli, Franco; Holmes, Andrew B.; Friend, Richard H. (Melville Laboratory for Polymer Synthesis, Department of Chemistry, Pembroke Street, University of Cambridge, Cambridge, CBL2 3RA, UK). Synthetic Metals, 119(1-3), 43-44 (English) 2001. CODEN: SYMEDZ. ISSN: 0379-6779. Publisher: Elsevier Science S.A..

AB A new and efficient route for the synthesis of poly(p-phenylene-vinylenes) (PPVs) contg. dialkoxy substituents at the 2,3-positions of the phenylene ring of the polymer backbone has been developed. In comparison to the more classical 2,5-substitution pattern these PPV polymers show a significantly blue-shifted longest wavelength absorption (λ_{max}) and emission band (λ_{em}). Two statistical PPV copolymers comprising 2,3-dibutoxy and dimethyloctylsilyl- or 2,5-bis(dimethyloctylsilyl) side-chains were synthesized via the Gilch dehydrohalogenation route. Double layer ITO/PEDOT/polymer/Ca were demonstrated to combine high electroluminescence efficiencies with low turn-on voltages.

IT 264906-84-5P 313998-47-9P 350577-02-5P
(efficient electroluminescent poly(p-phenylene vinylene) copolymers for application in LEDs)

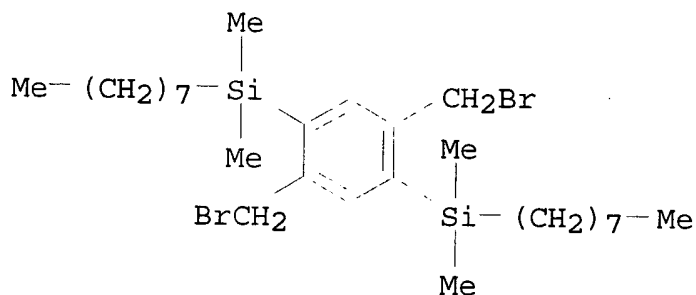
RN 264906-84-5 HCAPLUS

CN Benzene, 1,4-bis(bromomethyl)-2,3-dibutoxy-, polymer with 1,4-bis(bromomethyl)-2,5-bis(dimethyloctylsilyl)benzene (9CI) (CA INDEX NAME)

CM 1

CRN 221179-95-9

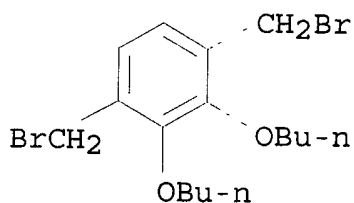
CMF C28 H52 Br2 Si2



CM 2

CRN 208264-12-4

CMF C16 H24 Br2 O2



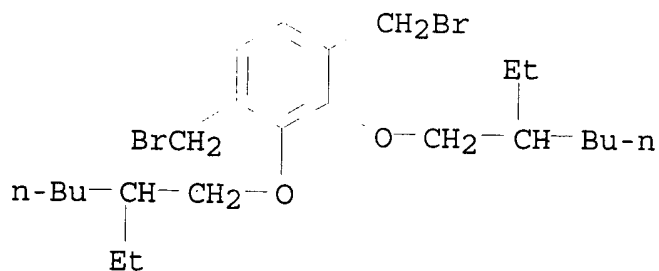
RN 313998-47-9 HCAPLUS

CN Benzene, 1,4-bis(bromomethyl)-2,3-bis[(2-ethylhexyl)oxy]-,
homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 313998-46-8

CMF C24 H40 Br2 O2



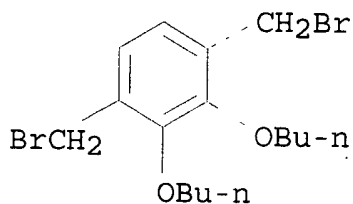
RN 350577-02-5 HCAPLUS

CN Silane, [2,5-bis(bromomethyl)phenyl]dimethyloctyl-, polymer with
1,4-bis(bromomethyl)-2,3-dibutoxybenzene (9CI) (CA INDEX NAME)

CM 1

CRN 208264-12-4

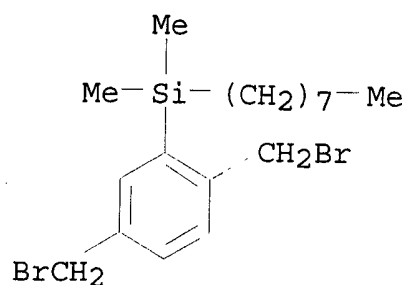
CMF C16 H24 Br2 O2



CM 2

CRN 184687-88-5

CMF C18 H30 Br2 Si



IT 264906-84-5P 313998-47-9P 350577-02-5P

(efficient electroluminescent poly(p-phenylene vinylene)
copolymers for application in LEDs)

L29 ANSWER 5 OF 17 HCAPLUS COPYRIGHT 2002 ACS

2001:163735 Document No. 135:137789 Versatile synthesis of various
conjugated aromatic homo- and copolymers. Martin, R. E.; Geneste,
F.; Chuah, B. S.; Fischmeister, C.; Ma, Y.; Holmes, A. B.; Riehn,
R.; Cacialli, F.; Friend, R. H. (Department of Chemistry, Melville
Laboratory for Polymer Synthesis, University of Cambridge,
Cambridge, CB2 3RA, UK). Synth. Met., 122(1), 1-5 (English) 2001.
CODEN: SYMEDZ. ISSN: 0379-6779. Publisher: Elsevier Science S.A..

AB In recent years, variously substituted derivs. of poly(1,4-phenylene
vinylene)s have emerged as efficient candidates for the emissive
layer in polymer light emitting diodes. The synthetic routes for
these polymers divide between precursor routes and those leading to
fully conjugated solvent-processible polymers. The Gilch
dehydrohalogenation polycondensation has largely been used for the
latter class. In this presentation, we describe a novel family of
2,3-disubstituted arom. precursors, derived from catechol, and we
report their efficient polymn. as homo- and copolymers with, for
example, silyl-substituted derivs. to give materials which are
highly fluorescent and serve as interesting materials in polymer
LEDs.

IT 264906-82-3P 264906-84-5P 313998-47-9P

(synthesis of conjugated arom. homo- and copolymers)

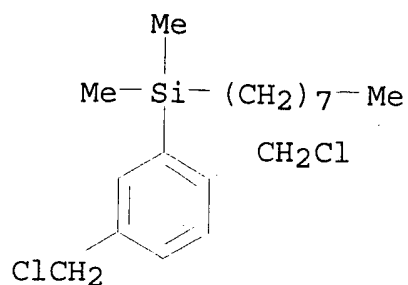
RN 264906-82-3 HCAPLUS

CN Benzene, 1,4-bis(bromomethyl)-2,3-dibutoxy-, polymer with
1,4-bis(chloromethyl)-2-(dimethyloctylsilyl)benzene (9CI) (CA INDEX
NAME)

CM 1

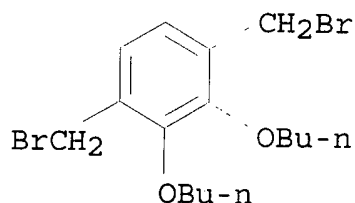
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CMF C18 H30 Cl2 Si



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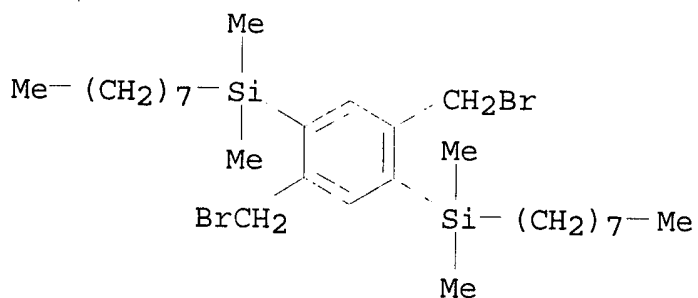
CRN 208264-12-4
CMF C16 H24 Br2 O2



RN 264906-84-5 HCAPLUS
CN Benzene, 1,4-bis(bromomethyl)-2,3-dibutoxy-, polymer with
1,4-bis(bromomethyl)-2,5-bis(dimethyloctylsilyl)benzene (9CI) (CA
INDEX NAME)

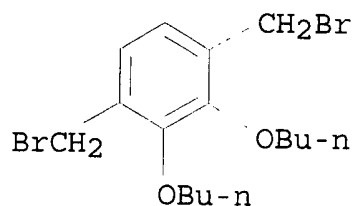
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CRN 221179-95-9
CMF C28 H52 Br2 Si2



CM 2

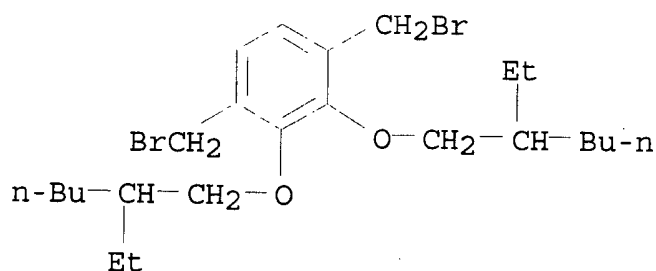
CRN 208264-12-4
 CMF C16 H24 Br2 O2



RN 313998-47-9 HCAPLUS
 CN Benzene, 1,4-bis(bromomethyl)-2,3-bis[(2-ethylhexyl)oxy]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 313998-46-8
 CMF C24 H40 Br2 O2



IT 264906-82-3P 264906-84-5P 313998-47-9P
 (synthesis of conjugated arom. homo- and copolymers)

L29 ANSWER 6 OF 17 HCAPLUS COPYRIGHT 2002 ACS
 2000:819744 Document No. 134:57060 Versatile syntheses of various homo- and copolymers of poly(1,4-arylene vinylene)s. Martin, R. E.; Chuah, B. S.; Riehn, R. H.; Geneste, F.; Cacialli, F.; Friend, R. H.; Holmes, A. B.; Morgado, J. (Melville Laboratory for Polymer Synthesis, Department of Chemistry, University of Cambridge, Cambridge, CB2 3RA, UK). Mater. Res. Soc. Symp. Proc., 598(Electrical, Optical, and Magnetic Properties of Organic Solid-State Materials V), BB2.1/1-BB2.1/11 (English) 2000. CODEN: MRSPDH. ISSN: 0272-9172. Publisher: Materials Research Society.
 AB The synthesis of poly(1,4-phenylene vinylene)s (PPVs) contg. a 2,3-dialkoxy substitution pattern has been developed. Poly[2,3-bis(2-ethylhexyloxy)-1,4-phenylene vinylene] (BEH-PPV, 4) was prep'd. and its optical properties compared with the recently discussed poly(2,3-dibutoxy-1,4-phenylene vinylene) (DB-PPV, 1), which showed in contrast to classical 2,5-substituted PPV derivs. a notable blue-shift of the longest-wavelength absorption

(.lambda.max) and a considerable increase of the solid-state photoluminescence (PL) efficiency. The two statistical PPV copolymers 5 and 6 comprising 2,3-dibutoxy and dimethyloctylsilyl- or 2,5-bis(dimethyloctylsilyl) side-chains, resp., were synthesized via the Gilch dehydrohalogenation route. Double-layer light-emitting devices (LEDs) were demonstrated to combine high electroluminescence efficiencies with low turn-on voltages.

IT 264906-82-3P 313998-47-9P 313998-49-1P

(Versatile syntheses of various homo- and copolymers of poly(1,4-arylene vinylene)s)

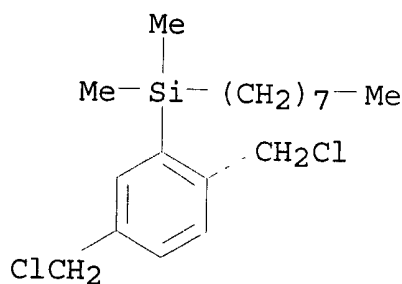
RN 264906-82-3 HCAPLUS

CN Benzene, 1,4-bis(bromomethyl)-2,3-dibutoxy-, polymer with 1,4-bis(chloromethyl)-2-(dimethyloctylsilyl)benzene (9CI) (CA INDEX NAME)

CM 1

CRN 264906-81-2

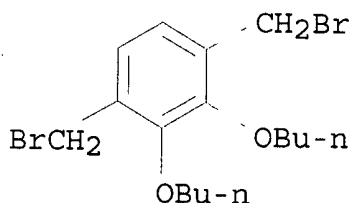
CMF C18 H30 Cl2 Si



CM 2

CRN 208264-12-4

CMF C16 H24 Br2 O2

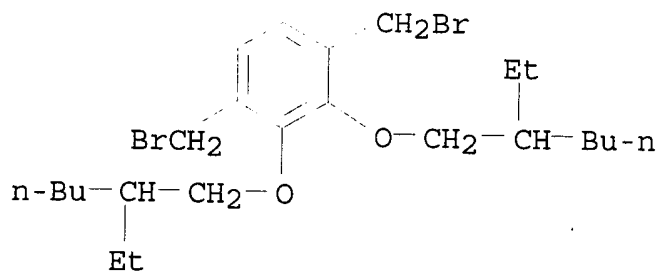


RN 313998-47-9 HCAPLUS

CN Benzene, 1,4-bis(bromomethyl)-2,3-bis[(2-ethylhexyl)oxy]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

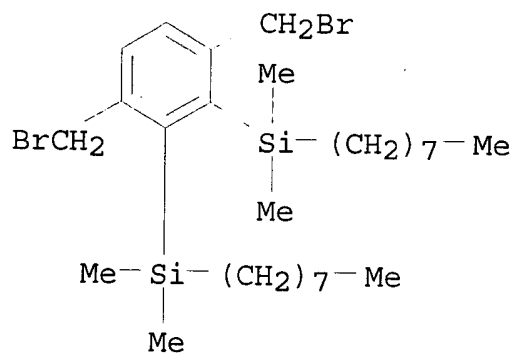
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CMF C24 H40 Br2 O2



RN 313998-49-1 HCAPLUS
CN Silane, [3,6-bis(bromomethyl)-1,2-phenylene]bis[dimethyloctyl-, polymer with 1,4-bis(bromomethyl)-2,3-dibutoxybenzene (9CI) (CA INDEX NAME)

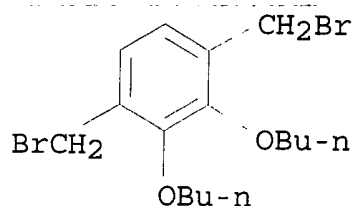
CM 1

CRN 313998-48-0
CMF C28 H52 Br2 Si2



CM 2

CRN 208264-12-4
CMF C16 H24 Br2 O2



IT 264906-82-3P 313998-47-9P 313998-49-1P

(Versatile syntheses of various homo- and copolymers of poly(1,4-arylene vinylene)s)

L29 ANSWER 7 OF 17 HCAPLUS COPYRIGHT 2002 ACS

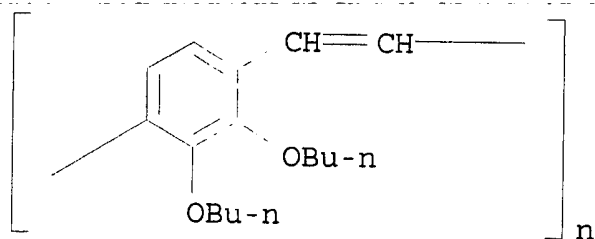
2000:462244 Document No. 134:29882 Design and synthesis of conjugated materials for efficient optoelectronic devices. Holmes, Andrew B.; Chuah, Beng Sim; Geneste, Florence; Martin, Rainer E.; Cacialli, Franco; Friend, Richard H.; Morgado, Jorgedo (Melville Lab. for Polymer Synthesis, Dep. Chem., Univ. of Cambridge, Cambridge, UK). Proc. SPIE-Int. Soc. Opt. Eng., 3797 (Organic Light-Emitting Materials and Devices III), 48-57 (English) 1999. CODEN: PSISDG. ISSN: 0277-786X. Publisher: SPIE-The International Society for Optical Engineering.

AB In this paper we report the synthesis of useful monomers and their application in the Gilch dehydrohalogenation and Wittig polycondensation methods to prep. highly luminescent poly(1,4-phenylene vinylene) (PPV) homopolymers and copolymers for use in light emitting devices. Alkoxy, including crown ethers, and silylated monomers were used in the polymn. of the PPV's. The electroluminescence emission color was obsd. to be device-dependent, ranging from yellow to green. Several electroluminescence properties of the polymers were detd. including HOMO and LUMO, photoluminescent efficiency, and onset potentials.

IT 208264-13-5P 223250-72-4DP, dehydrobrominated 223250-78-0DP, dehydrobrominated 223250-85-9DP, dehydrobrominated 224456-12-6P 224456-13-7DP, dehydrobrominated 286392-10-7DP, dehydrobrominated 286392-11-8DP, dehydrobrominated 312489-45-5DP, dehydrobrominated
(design and synthesis of conjugated poly(1,4-phenylene vinylene)s with side groups for efficient optical electronic devices)

RN 208264-13-5 HCAPLUS

CN Poly[(2,3-dibutoxy-1,4-phenylene)-1,2-ethenediyl] (9CI) (CA INDEX NAME)



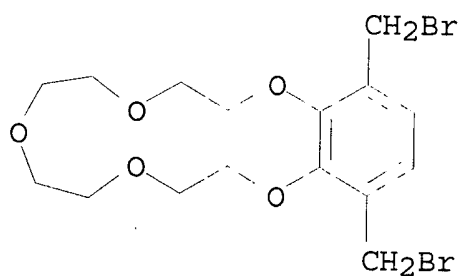
RN 223250-72-4 HCAPLUS

CN 1,4,7,10,13-Benzopentaoxacyclopentadecin, 14,17-bis(bromomethyl)-
2,3,5,6,8,9,11,12-octahydro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 223250-66-6

CMF C16 H22 Br2 O5



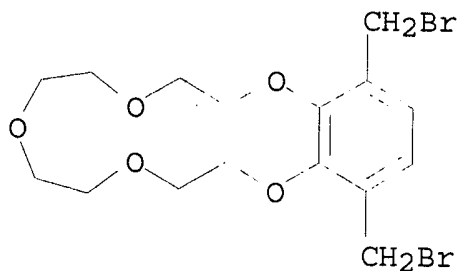
RN 223250-78-0 HCAPLUS

CN 1,4,7,10,13-Benzopentaoxacyclopentadecin, 14,17-bis(bromomethyl)-
2,3,5,6,8,9,11,12-octahydro-, polymer with 1,4-bis(bromomethyl)-2,3-
dibutoxybenzene (9CI) (CA INDEX NAME)

CM 1

CRN 223250-66-6

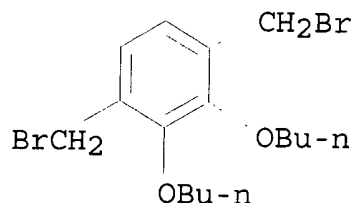
CMF C16 H22 Br2 O5



CM 2

CRN 208264-12-4

CMF C16 H24 Br2 O2



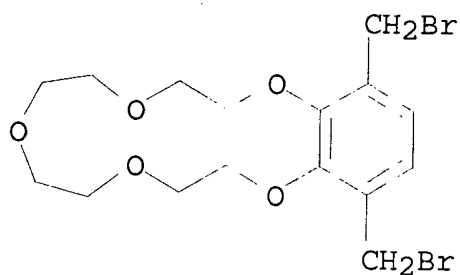
RN 223250-85-9 HCAPLUS

CN Silane, [2,5-bis(bromomethyl)phenyl]dimethyloctyl-, polymer with 14,17-bis(bromomethyl)-2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin (9CI) (CA INDEX NAME)

CM 1

CRN 223250-66-6

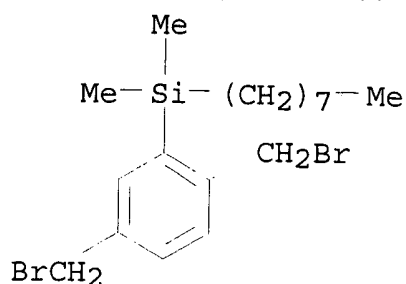
CMF C16 H22 Br2 O5



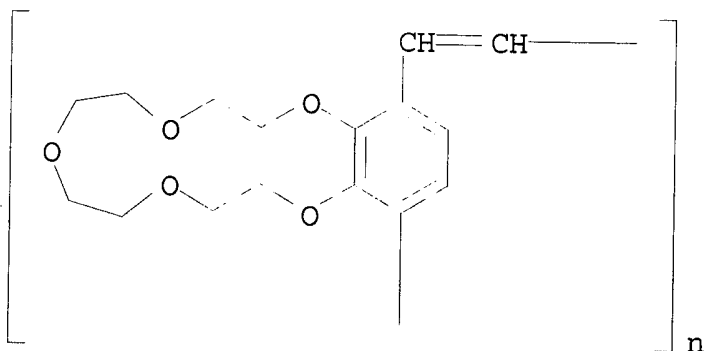
CM 2

CRN 184687-88-5

CMF C18 H30 Br2 Si



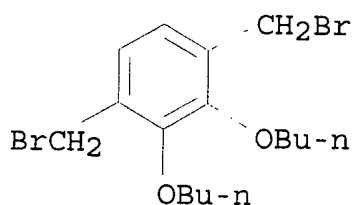
RN 224456-12-6 HCAPLUS
 CN Poly[(2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-14,17-diyl)-1,2-ethenediyl] (9CI) (CA INDEX NAME)



RN 224456-13-7 HCAPLUS
 CN Benzene, 1,4-bis(bromomethyl)-2,3-dibutoxy-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 208264-12-4
 CMF C16 H24 Br2 O2



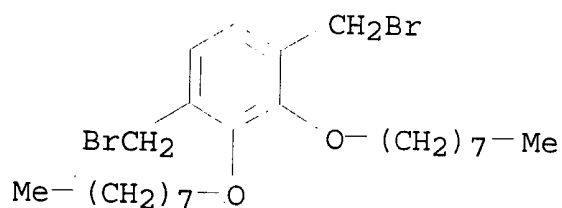
RN 286392-10-7 HCAPLUS
 CN 1,4,7,10,13-Benzopentaoxacyclopentadecin, 14,17-bis(bromomethyl)-2,3,5,6,8,9,11,12-octahydro-, polymer with 1,4-bis(bromomethyl)-2,3-

bis(octyloxy)benzene (9CI) (CA INDEX NAME)

CM 1

CRN 286392-09-4

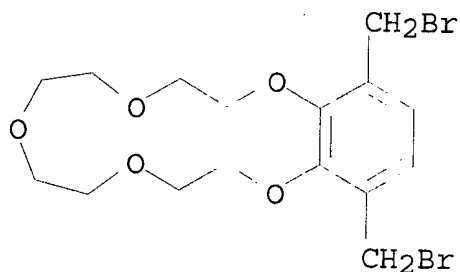
CMF C24 H40 Br2 O2



CM 2

CRN 223250-66-6

CMF C16 H22 Br2 O5



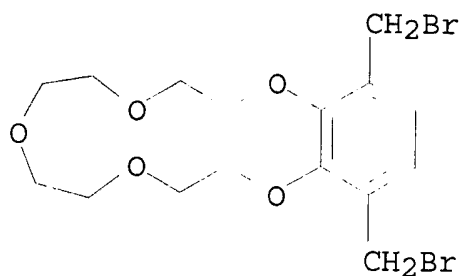
RN 286392-11-8 HCAPLUS

CN Silane, [2,5-bis(bromomethyl)-1,4-phenylene]bis[dimethyloctyl-, polymer with 14,17-bis(bromomethyl)-2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin (9CI) (CA INDEX NAME)

CM 1

CRN 223250-66-6

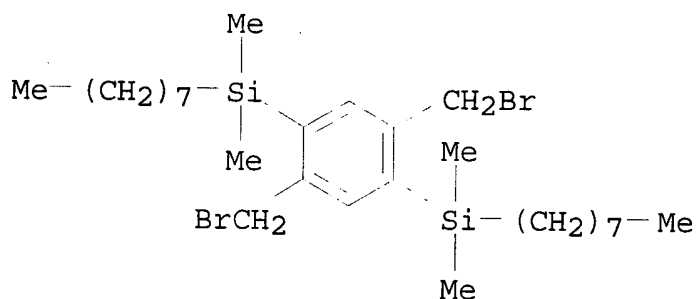
CMF C16 H22 Br2 O5



CM 2

CRN 221179-95-9

CMF C28 H52 Br2 Si2



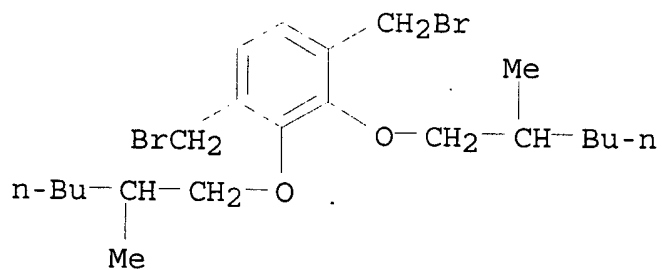
RN 312489-45-5 HCAPLUS

CN Benzene, 1,4-bis(bromomethyl)-2,3-bis[(2-methylhexyl)oxy]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 312489-44-4

CMF C22 H36 Br2 O2



IT 208264-13-5P 223250-72-4DP, dehydrobrominated
223250-78-0DP, dehydrobrominated 223250-85-9DP,

dehydrobrominated 224456-12-6P 224456-13-7DP,
 dehydrobrominated 286392-10-7DP, dehydrobrominated
 286392-11-8DP, dehydrobrominated 312489-45-5DP,
 dehydrobrominated

(design and synthesis of conjugated poly(1,4-phenylene vinylene)s
 with side groups for efficient optical electronic devices)

L29 ANSWER 8 OF 17 HCAPLUS COPYRIGHT 2002 ACS

2000:420223 Document No. 133:157029 The copolymer route to new
 luminescent materials for LEDs. Chuah, Beng Sim; Geneste, Florence;
 Holmes, Andrew B.; Martin, Rainer E.; Rost, Henning; Cacialli,
 Franco; Friend, Richard H.; Horhold, Heinrich; Pfeiffer, Steffen;
 Hwang, Do-Hoon (Melville Laboratory for Polymer Synthesis,
 Department of Chemistry, University of Cambridge, Cambridge, CB2
 3RA, UK). Macromol. Symp., 154(Polymers in Display Applications),
 177-186 (English) 2000. CODEN: MSYMEC. ISSN: 1022-1360.
 Publisher: Wiley-VCH Verlag GmbH.

AB The synthesis of the highly fluorescent mono- and bisilylated
 poly(1,4-phenylenevinylene) derivs. is discussed. The Gilch
 dehydrohalogenation polycondensation and the Horner synthesis of
 strictly alternating copolymers have been used to prep. the various
 copolymers, in which the tunability of various optoelectronic
 properties may be examd. systematically.

IT 287389-00-8P

(prepn. and optoelectronic properties of polymer-based luminescent
 materials for LEDs)

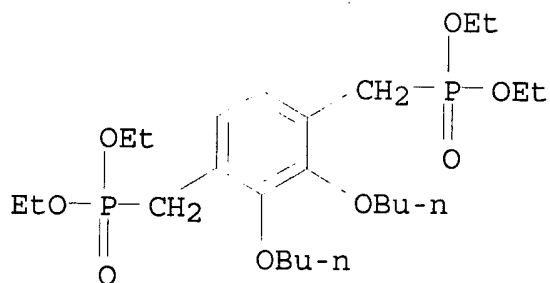
RN 287389-00-8 HCAPLUS

CN Phosphonic acid, [(2,3-dibutoxy-1,4-phenylene)bis(methylene)]bis-,
 tetraethyl ester, polymer with 4,4'-(phenylimino)bis[benzaldehyde]
 (9CI) (CA INDEX NAME)

CM 1

CRN 208264-14-6

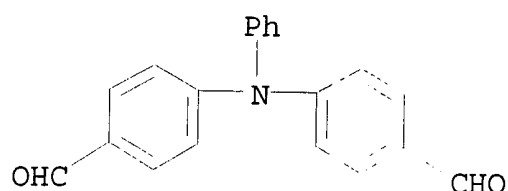
CMF C24 H44 O8 P2



CM 2

CRN 53566-95-3

CMF C20 H15 N O2



IT 287389-00-8P

(prepn. and optoelectronic properties of polymer-based luminescent materials for LEDs)

L29 ANSWER 9 OF 17 HCAPLUS COPYRIGHT 2002 ACS

2000:377763 Document No. 133:141986 Luminescence properties of PPV-based copolymers with crown ether substituents. Morgado, J.; Cacialli, F.; Friend, R. H.; Chuah, B. S.; Moratti, S. C.; Holmes, A. B. (Cavendish Laboratory, Cambridge, CB3 0HE, UK). Synth. Met., 111-112, 449-452 (English) 2000. CODEN: SYMEDZ. ISSN: 0379-6779. Publisher: Elsevier Science S.A..

AB The authors present the optical properties of four poly(p-phenylenevinylene) (PPV)-based statistical copolymers, which combine monomers of highly luminescent polymers and monomers carrying crown ether side groups. The photoluminescence efficiency for films on Spectrosil ranges from 28% to 52%, whereas the electroluminescence (EL) efficiency of single-layer diodes with Al cathodes reaches 0.6 cd/A (internal quantum efficiency of 1.4%). Surprisingly, the efficiency for Ca cathodes diodes is lower than for Al ones. Slight variation of the EL spectra from pixel to pixel affects all the copolymers of the family, and the authors consider that it is indicative of chain aggregation induced by the crown ether moieties. Studies of light-emitting electrochem. cells, LECs, based on one of these polymers show that the ion mobility induced by the presence of the crown ethers is relatively small. Typical LEC behavior was obsd. upon addn. of poly(ethylene oxide), with EL internal quantum efficiency reaching 2.3%.

IT 224456-13-7 286392-12-9

(luminescence properties of PPV-based copolymers with crown ether substituents and their applications)

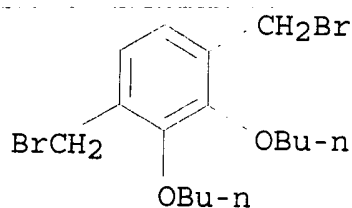
RN 224456-13-7 HCAPLUS

CN Benzene, 1,4-bis(bromomethyl)-2,3-dibutoxy-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 208264-12-4

CMF C16 H24 Br2 O2



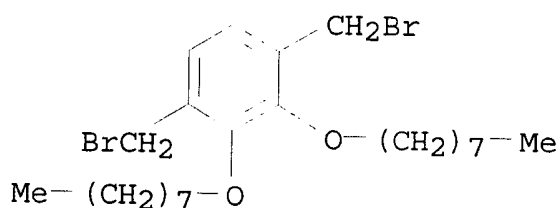
RN 286392-12-9 HCAPLUS

CN Benzene, 1,4-bis(bromomethyl)-2,3-bis(octyloxy)-, homopolymer (9CI)
(CA INDEX NAME)

CM 1

CRN 286392-09-4

CMF C24 H40 Br2 O2



IT 223250-78-0 223250-85-9 286392-10-7
286392-11-8

(luminescence properties of PPV-based copolymers with crown ether
substituents and their applications)

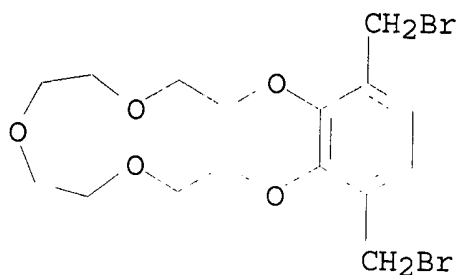
RN 223250-78-0 HCAPLUS

CN 1,4,7,10,13-Benzopentaoxacyclopentadecin, 14,17-bis(bromomethyl)-
2,3,5,6,8,9,11,12-octahydro-, polymer with 1,4-bis(bromomethyl)-2,3-
dibutoxybenzene (9CI) (CA INDEX NAME)

CM 1

CRN 223250-66-6

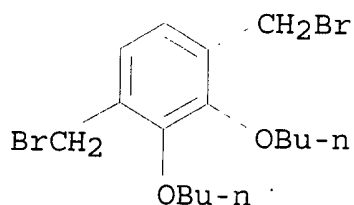
CMF C16 H22 Br2 O5



CM 2

CRN 208264-12-4

CMF C16 H24 Br2 O2



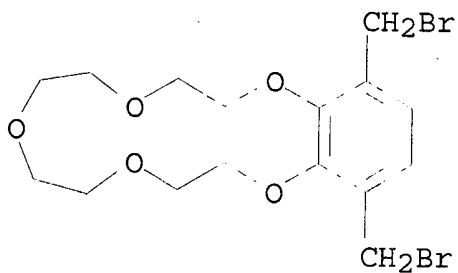
RN 223250-85-9 HCAPLUS

CN Silane, [2,5-bis(bromomethyl)phenyl]dimethyloctyl-, polymer with 14,17-bis(bromomethyl)-2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin (9CI) (CA INDEX NAME)

CM 1

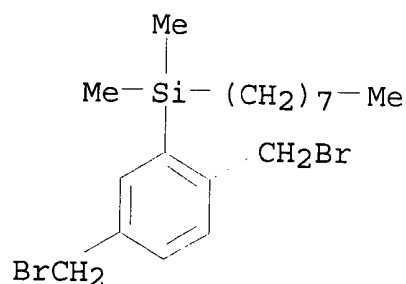
CRN 223250-66-6

CMF C16 H22 Br2 O5



CM 2

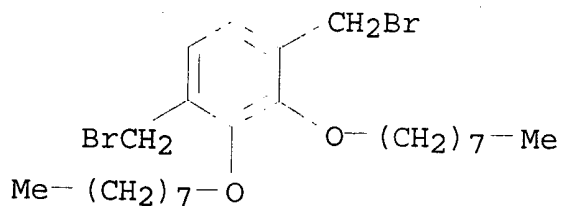
CRN 184687-88-5
CMF C18 H30 Br2 Si



RN 286392-10-7 HCAPLUS
CN 1,4,7,10,13-Benzopentaoxacyclopentadecin, 14,17-bis(bromomethyl)-
2,3,5,6,8,9,11,12-octahydro-, polymer with 1,4-bis(bromomethyl)-2,3-
bis(octyloxy)benzene (9CI) (CA INDEX NAME)

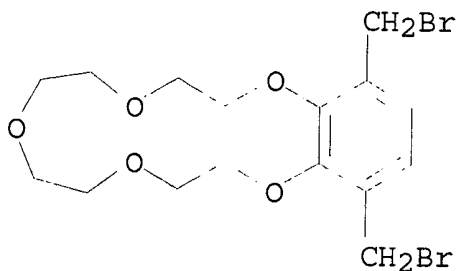
CM 1

CRN 286392-09-4
CMF C24 H40 Br2 O2



CM 2

CRN 223250-66-6
CMF C16 H22 Br2 O5

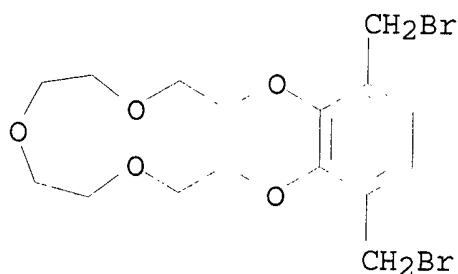


RN 286392-11-8 HCAPLUS
 CN Silane, [2,5-bis(bromomethyl)-1,4-phenylene]bis[dimethyloctyl-,
 polymer with 14,17-bis(bromomethyl)-2,3,5,6,8,9,11,12-octahydro-
 1,4,7,10,13-benzopentaoxacyclopentadecin (9CI) (CA INDEX NAME)

CM 1

CRN 223250-66-6

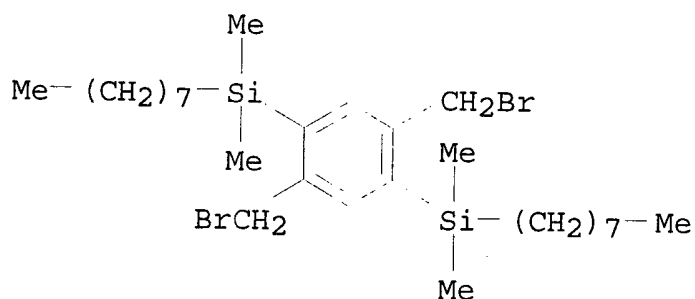
CMF C16 H22 Br2 O5



CM 2

CRN 221179-95-9

CMF C28 H52 Br2 Si2



IT 224456-13-7 286392-12-9

(luminescence properties of PPV-based copolymers with crown ether
 substituents and their applications)

IT 223250-78-0 223250-85-9 286392-10-7
 286392-11-8

(luminescence properties of PPV-based copolymers with crown ether
 substituents and their applications)

L29 ANSWER 10 OF 17 HCAPLUS COPYRIGHT 2002 ACS

2000:104489 Document No. 132:294105 Efficient blue-green light
 emitting poly(1,4-phenylene vinylene) copolymers. Martin, Rainer

E.; Geneste, Florence; Chuah, Beng Sim; Holmes, Andrew B.; Riehn, Robert; Cacialli, Franco; Friend, Richard H. (Melville Lab., Dep. Chem., University of Cambridge, Cambridge, CB2 3RA, UK). Chem. Commun. (Cambridge) (4), 291-292 (English) 2000. CODEN: CHCOFS. ISSN: 1359-7345. Publisher: Royal Society of Chemistry.

AB 2,3-Dialkoxy-substituted poly(1,4-phenylene vinylene) (PPV) homo- and co-polymers were prepd. by the Gilch dehydrohalogenation polycondensation of the corresponding bishalomethyl-substituted benzene monomers. The polymers prepd. are poly[(2-dimethyloctylsilyl-1,4-phenylene vinylene)-co-(2,3-dibutoxy-1,4-phenylene vinylene)] (DMOS-co-DB-PPV) and poly{bis[(2,5-dimethyloctylsilyl)-1,4-phenylene vinylene]-co-(2,3-dibutoxy-1,4-phenylene vinylene)} (BDMOS-co-DB-PPV). Optical absorption measurements of the DMOS-co-DB-PPV and BDMOS-co-DB-PPV conducting polymers indicate λ_{\max} of 440 and 442 nm, resp., and solid-state photoluminescence efficiency of 35 and 28%, resp. Double layer light emitting test devices fabricated with these materials exhibited high electroluminescence efficiency with low turn-on voltage.

IT 264906-82-3P 264906-84-5P

(prepn. of dibutoxy monomer and polymn. to obtain poly(methyloctylsilyl-butoxy-phenylene vinylene)s with high photoluminescence efficiency)

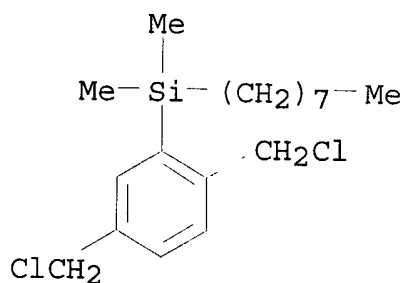
RN 264906-82-3 HCAPLUS

CN Benzene, 1,4-bis(bromomethyl)-2,3-dibutoxy-, polymer with 1,4-bis(chloromethyl)-2-(dimethyloctylsilyl)benzene (9CI) (CA INDEX NAME)

CM 1

CRN 264906-81-2

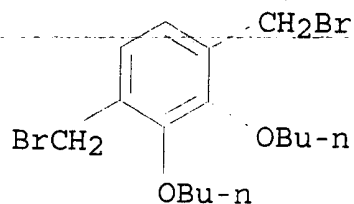
CMF C18 H30 Cl2 Si



CM 2

CRN 208264-12-4

CMF C16 H24 Br2 O2



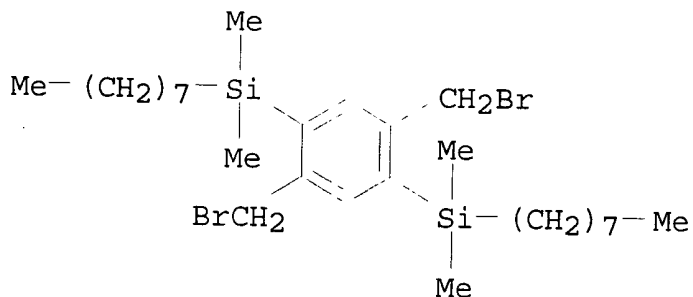
RN 264906-84-5 HCAPLUS

CN Benzene, 1,4-bis(bromomethyl)-2,3-dibutoxy-, polymer with 1,4-bis(bromomethyl)-2,5-bis(dimethyloctylsilyl)benzene (9CI) (CA INDEX NAME)

CM 1

CRN 221179-95-9

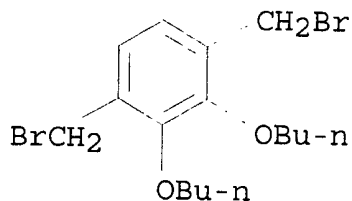
CMF C28 H52 Br2 Si2



CM 2

CRN 208264-12-4

CMF C16 H24 Br2 O2



IT 264906-82-3P 264906-84-5P

(prepn. of dibutoxy monomer and polymn. to obtain poly(methyloctylsilyl-butoxy-phenylene vinylene)s with high photoluminescence efficiency)

L29 ANSWER 11 OF 17 HCAPLUS COPYRIGHT 2002 ACS

1999:547798 Document No. 131:287327 Conjugated and electroluminescent

polymers. Cacialli, Franco (Cavendish Laboratory, Cambridge University, Cambridge, CB3 0HE, UK). Curr. Opin. Colloid Interface Sci., 4(2), 159-164 (English) 1999. CODEN: COCSFL. ISSN: 1359-0294. Publisher: Elsevier Science Ltd..

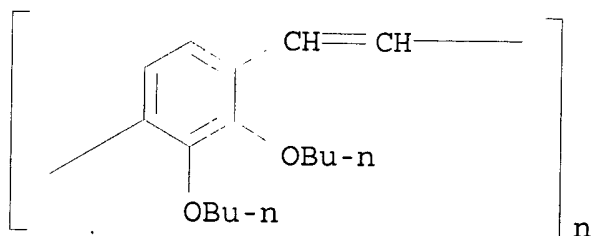
AB A review with 46 refs. Several advances were reported in the field of conjugated polymer semiconductors over the last year. Major breakthrough relate to the achievement of high electroluminescence efficiency via exploitation of phosphorescence, of high efficiency photovoltaic cells, and of a better understanding of the properties of charged and neutral excitations in this class of unconventional semiconductors.

IT 208264-13-5, Poly[(2,3-dibutoxy-1,4-phenylene)-1,2-ethenediyl]

(conjugated and electroluminescent polymers)

RN 208264-13-5 HCAPLUS

CN Poly[(2,3-dibutoxy-1,4-phenylene)-1,2-ethenediyl] (9CI) (CA INDEX NAME)



IT 208264-13-5, Poly[(2,3-dibutoxy-1,4-phenylene)-1,2-ethenediyl]

(conjugated and electroluminescent polymers)

L29 ANSWER 12 OF 17 HCAPLUS COPYRIGHT 2002 ACS

1999:456000 Document No. 131:200167 A highly luminescent polymer for LEDs. Chuah, B. S.; Cacialli, F.; Dos Santos, D. A.; Feeder, N.; Davies, J. E.; Moratti, S. C.; Holmes, A. B.; Friend, R. H.; Bredas, J. L. (Melville Laboratory for Polymer Synthesis & Department of Chemistry, University of Cambridge, Cambridge, CB2 3RA, UK). Synth. Met., 102(1-3), 935-936 (English) 1999. CODEN: SYMEDZ. ISSN: 0379-6779. Publisher: Elsevier Science S.A..

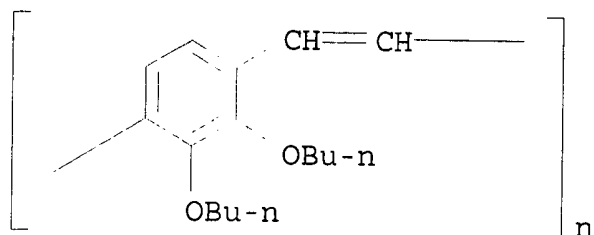
AB A new poly(2,3-dibutoxy-1,4-phenylenevinylene) is reported with high photoluminescence (.apprx.40%) and electroluminescence efficiencies. The unusual substitution pattern is effective in tuning the emission color as the polymer exhibits unexpected blue-shifted emission to the green region. Crystal structures of model oligomers (PL efficiencies .apprx.80%) and theor. calcns. on optimized geometry offer insight into these interesting properties.

IT 208264-13-5P 224456-13-7P

(highly luminescent poly(dibutoxyphenylenevinylene) for LEDs)

RN 208264-13-5 HCAPLUS

CN Poly[(2,3-dibutoxy-1,4-phenylene)-1,2-ethenediyl] (9CI) (CA INDEX NAME)



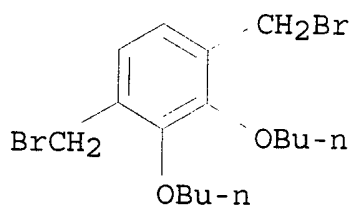
RN 224456-13-7 HCAPLUS

CN Benzene, 1,4-bis(bromomethyl)-2,3-dibutoxy-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 208264-12-4

CMF C16 H24 Br2 O2



IT 208264-13-5P 224456-13-7P

(highly luminescent poly(dibutoxyphenylenevinylene) for LEDs)

L29 ANSWER 13 OF 17 HCAPLUS COPYRIGHT 2002 ACS

1999:455995 Document No. 131:162791 A green emitting, alkoxy disubstituted poly(p-phenylene vinylene) for electroluminescent devices. Cacialli, F.; Chuah, B. S.; Kim, J. S.; Dos Santos, D. A.; Friend, R. H.; Moratti, S. C.; Holmes, A. B.; Bredas, J. L. (Cavendish Laboratory, Cambridge University, Cambridge, CB3 0HE, UK). Synth. Met., 102(1-3), 924-925 (English) 1999. CODEN: SYMEDZ. ISSN: 0379-6779. Publisher: Elsevier Science S.A..

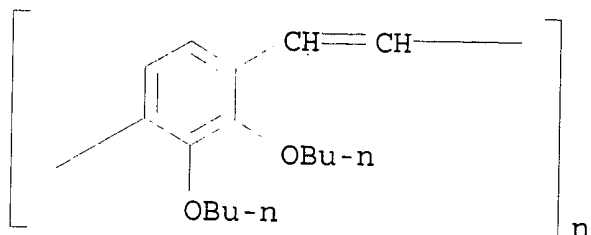
AB The authors report the effects of the substitution of butoxy chains on the Ph 2,3 positions of poly(p-phenylene vinylene) (PPV). This substitution has a remarkable influence on the optical and electroluminescent properties of the resulting semiconductor (DB-PPV) which does not show the red shift of the emission, typical of alkoxy substituted PPVs, such as poly(2-methoxy-5-(2'-ethyl-hexyloxy)-1,4-phenylene vinylene), MEH-PPV, dominated by the influence of the .pi.-electron rich O atom. The authors report photoluminescence (PL), quantum efficiencies of .apprx.40%, electroluminescence (EL) efficiencies of .apprx.0.6 cd/A in 2-layer ITO/PPV/DB-PPV/Ca diodes, and luminances up to 4500 cd/m2.

IT 208264-13-5

(a green emitting, alkoxy disubstituted poly(p-phenylene vinylene) for electroluminescent devices)

RN 208264-13-5 HCAPLUS

CN Poly[(2,3-dibutoxy-1,4-phenylene)-1,2-ethenediyl] (9CI) (CA INDEX NAME)



IT 208264-13-5

(a green emitting, alkoxy disubstituted poly(p-phenylene vinylene) for electroluminescent devices)

L29 ANSWER 14 OF 17 HCAPLUS COPYRIGHT 2002 ACS

1999:286045 Document No. 130:303843 Polymeric materials for electroluminescent devices. Holmes, Andrew Bruce; Chuah, Beng Sim; Cacialli, Franco; Moratti, Steven Carl (Cambridge Display Technology Ltd., UK). PCT Int. Appl. WO 9920711 A1 19990429, 34 pp.

DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG.

(English). CODEN: PIXXD2. APPLICATION: WO 1998-GB3154 19981021.

PRIORITY: GB 1997-22102 19971021; GB 1998-14815 19980708.

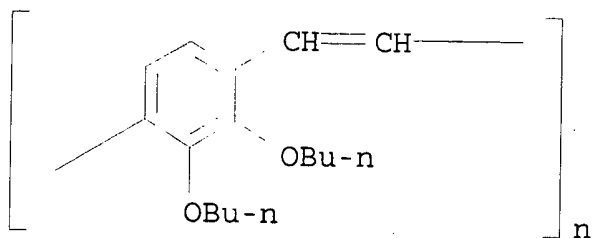
AB Conjugated poly(1,4-arylene vinylene) derivs. comprising an arylene unit having adjacent substituents are described in which the substituents are oriented so as to affect the electronic structure of the compd. sufficiently to cause a blue-shift in the photoluminescence and/or electroluminescence of the compd. Methods for the prodn. of the compds. are described which entail polymg. a bis(halomethyl) substituted aryl monomer in the presence of a base (e.g., potassium tert-butoxide) to form a poly(arylene vinylene), wherein the aryl monomer has adjacent substituents on the aryl residue. Use of the polymers in devices, esp. (opto)electronic devices, is also described. Methods for producing the devices entail applying a soln. of the compd(s). (e.g., in chloroform) to a substrate to form a film.

IT 208264-13-5P 223250-72-4P 223250-78-0P
223250-85-9P

(luminescent poly(1,4-arylene vinylene) derivs. and their prepn. and use in devices)

RN 208264-13-5 HCAPLUS

CN Poly[(2,3-dibutoxy-1,4-phenylene)-1,2-ethenediyl] (9CI) (CA INDEX NAME)



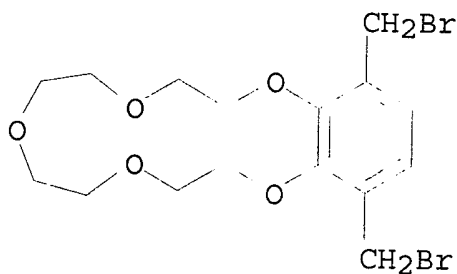
RN 223250-72-4 HCAPLUS

CN 1,4,7,10,13-Benzopentaoxacyclopentadecin, 14,17-bis(bromomethyl)-2,3,5,6,8,9,11,12-octahydro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 223250-66-6

CMF C16 H22 Br2 O5



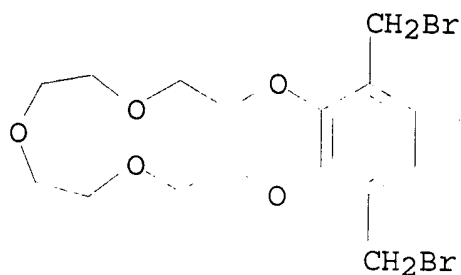
RN 223250-78-0 HCAPLUS

CN 1,4,7,10,13-Benzopentaoxacyclopentadecin, 14,17-bis(bromomethyl)-2,3,5,6,8,9,11,12-octahydro-, polymer with 1,4-bis(bromomethyl)-2,3-dibutoxybenzene (9CI) (CA INDEX NAME)

CM 1

CRN 223250-66-6

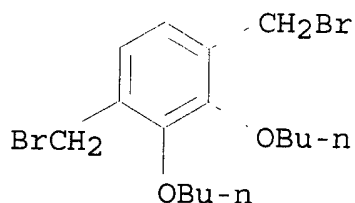
CMF C16 H22 Br2 O5



CM 2

CRN 208264-12-4

CMF C16 H24 Br2 O2



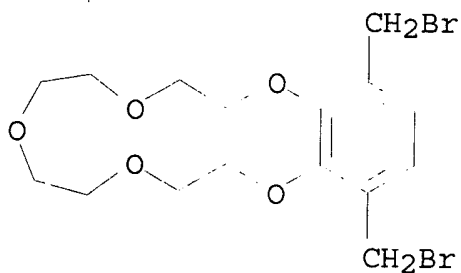
RN 223250-85-9 HCAPLUS

CN Silane, [2,5-bis(bromomethyl)phenyl]dimethyloctyl-, polymer with 14,17-bis(bromomethyl)-2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin (9CI) (CA INDEX NAME)

CM 1

CRN 223250-66-6

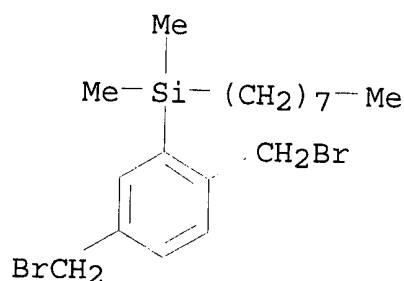
CMF C16 H22 Br2 O5



CM 2

CRN 184687-88-5

CMF C18 H30 Br2 Si



IT 208264-13-5P 223250-72-4P 223250-78-0P
223250-85-9P

(luminescent poly(1,4-arylene vinylene) derivs. and their prepn. and use in devices)

L29 ANSWER 15 OF 17 HCAPLUS COPYRIGHT 2002 ACS

1999:237503 Document No. 130:344748 New organic and polymeric materials for thin film luminescent devices. Holmes, Andrew B.; Chuah, Beng Sim; Li, Xiao-Chang; Cacialli, Franco; Morgado, Jorge; Sirringhaus, Henning; Dos Santos, Donizetti A.; Moratti, Stephen C.; Bredas, Jean-Luc; Friend, Richard H.; Garnier, Francis (Melville Laboratory for Polymer Synthesis, University of Cambridge, Cambridge, CB2 3RA, UK). Proc. SPIE-Int. Soc. Opt. Eng., 3476(Organic Light-Emitting Materials and Devices II), 24-31 (English) 1998. CODEN: PSISDG. ISSN: 0277-786X. Publisher: SPIE-The International Society for Optical Engineering.

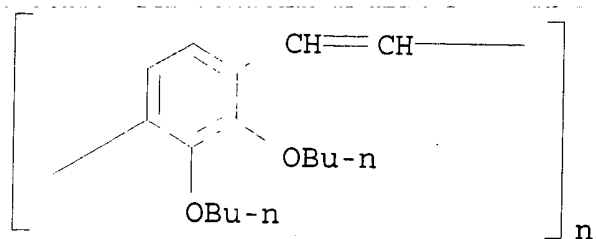
AB The high luminescence efficiencies and significant blue shift of the 2,3-disubstituted poly(1,4-phenylene vinylene) polymer 4 have prompted further study, and the synthesis and characteristics of the homopolymer 9 and copolymers 10 and 12 are described. Semiempirical calcns. and single x-ray crystallog. offer further insight into the explanation of the properties of this class of polymers. A promising org. semiconductor 15 was prepd. and used as the active layer in a thin film transistor. This material exhibited excellent device characteristics, including a field effect mobility of 0.02-0.05 cm² V⁻¹ s⁻¹ and a high On/Off ratio.

IT 208264-13-5

(new org. and polymeric materials for thin film luminescent devices in relation to phenylene-vinylene derivs.)

RN 208264-13-5 HCAPLUS

CN Poly[(2,3-dibutoxy-1,4-phenylene)-1,2-ethenediyl] (9CI) (CA INDEX NAME)



IT 223250-72-4P 223250-78-0P 223250-85-9P
224456-12-6P

(new org. and polymeric materials for thin film luminescent devices in relation to phenylene-vinylene derivs.)

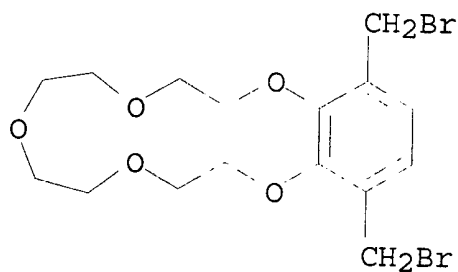
RN 223250-72-4 HCAPLUS

CN 1,4,7,10,13-Benzopentaoxacyclopentadecin, 14,17-bis(bromomethyl)-2,3,5,6,8,9,11,12-octahydro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 223250-66-6

CMF C16 H22 Br2 O5



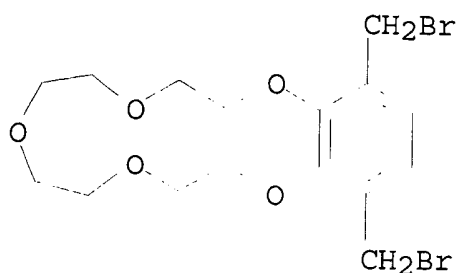
RN 223250-78-0 HCAPLUS

CN 1,4,7,10,13-Benzopentaoxacyclopentadecin, 14,17-bis(bromomethyl)-2,3,5,6,8,9,11,12-octahydro-, polymer with 1,4-bis(bromomethyl)-2,3-dibutoxybenzene (9CI) (CA INDEX NAME)

CM 1

CRN 223250-66-6

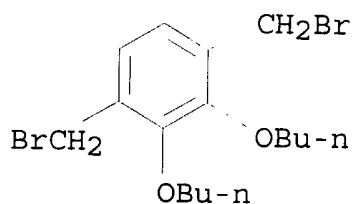
CMF C16 H22 Br2 O5



CM 2

CRN 208264-12-4

CMF C16 H24 Br2 O2



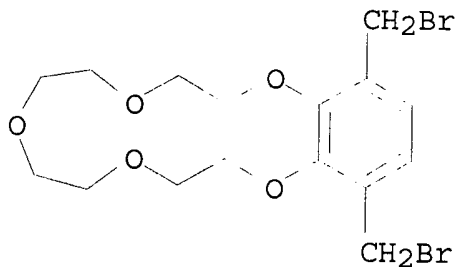
RN 223250-85-9 HCAPLUS

CN Silane, [2,5-bis(bromomethyl)phenyl]dimethyloctyl-, polymer with 14,17-bis(bromomethyl)-2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin (9CI) (CA INDEX NAME)

CM 1

CRN 223250-66-6

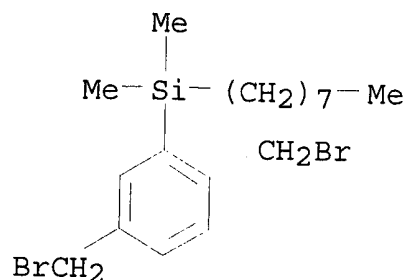
CMF C16 H22 Br2 O5



CM 2

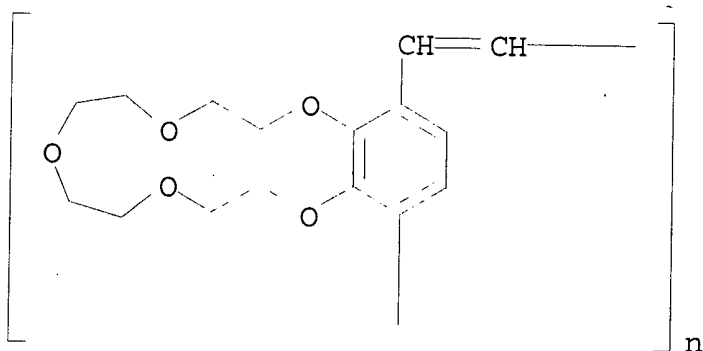
CRN 184687-88-5

CMF C18 H30 Br2 Si



RN 224456-12-6 HCAPLUS

CN Poly[(2,3,5,6,8,9,11,12-octahydro-1,4,7,10,13-benzopentaoxacyclopentadecin-14,17-diyl)-1,2-ethenediyl] (9CI) (CA INDEX NAME)



IT 224456-13-7P

(new org. and polymeric materials for thin film luminescent devices in relation to phenylene-vinylene derivs.)

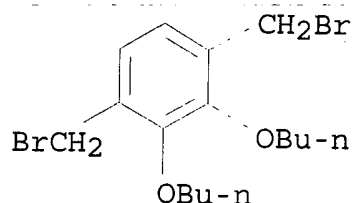
RN 224456-13-7 HCAPLUS

CN Benzene, 1,4-bis(bromomethyl)-2,3-dibutoxy-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 208264-12-4

CMF C16 H24 Br2 O2



IT 208264-13-5

(new org. and polymeric materials for thin film luminescent devices in relation to phenylene-vinylene derivs.)

IT 223250-72-4P 223250-78-0P 223250-85-9P
224456-12-6P

(new org. and polymeric materials for thin film luminescent devices in relation to phenylene-vinylene derivs.)

IT 224456-13-7P

(new org. and polymeric materials for thin film luminescent devices in relation to phenylene-vinylene derivs.)

L29 ANSWER 16 OF 17 HCAPLUS COPYRIGHT 2002 ACS

1998:673116 Document No. 130:73545 New organic and polymeric materials for thin film optical devices. Chuah, Beng Sim; Li, Xiao-Chang; Cacialli, Franco; Davies, John E.; Feeder, C. Neil; Friend, C. Richard H.; Garnier, Francis; Holmes, Andrew B.; Moratti, Stephen C.; Sirringhaus, Henning (Melville Laboratory for Polymer Synthesis, Department of Chemistry, University of Cambridge, Pembroke, CB2 3RA, UK). Annu. Tech. Conf. - Soc. Plast. Eng., 56th(Vol. 2), 1321-1324 (English) 1998. CODEN: ACPED4. ISSN: 0272-5223. Publisher: Society of Plastics Engineers.

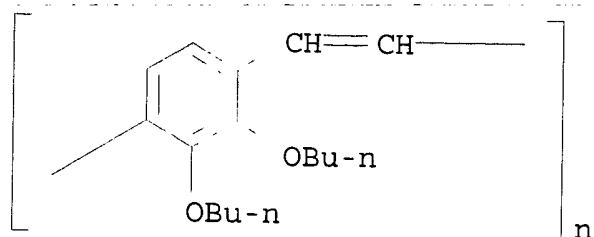
AB Org. semiconductors that consist of conjugated oligomers or polymers are the subject of considerable current research interest due to their fundamental opto-electronic physics and their potential applications in photo-diodes, light-emitting diodes and thin film transistors. The synthesis and device properties of the green light emitting polymer 5 and a model oligomer 8 are described. The org. semiconductor 11 was prepd. and used in a thin film transistor. It exhibits a field effect mobility in the range 0.02-0.05 cm²/V s and a high On/Off ratio.

IT 208264-13-5P

(new org. and polymeric materials for thin film optical devices)

RN 208264-13-5 HCAPLUS

CN Poly[(2,3-dibutoxy-1,4-phenylene)-1,2-ethenediyl] (9CI) (CA INDEX NAME)



IT 208264-13-5P

(new org. and polymeric materials for thin film optical devices)

L29 ANSWER 17 OF 17 HCAPLUS COPYRIGHT 2002 ACS

1998:336234 Document No. 129:46941 New luminescent PPV derivatives for LED applications. Chuah, B. S.; Cacialli, F.; Davies, J. E.; Feeder, N.; Friend, R. H.; Holmes, A. B.; Marseglia, E. A.; Moratti, S. C.; Bredas, J.-L.; Dos Santos, D. A. (Melville Laboratory for Polymer Synthesis, Department of Chemistry, University of Cambridge, Cambridge, CB2 3RA, UK). Mater. Res. Soc. Symp. Proc., 488(Electrical, Optical, and Magnetic Properties of Organic Solid-State Materials IV), 87-92 (English) 1998. CODEN: MRSPDH. ISSN: 0272-9172. Publisher: Materials Research Society.

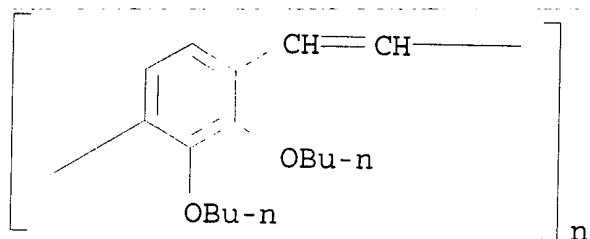
AB A new poly(phenylenevinylene) [PPV] deriv. with dialkoxy substituents at the 2,3-positions of the phenylene ring of the polymer backbone was prep'd. Poly(2,3-dibutoxy-1,4-phenylenevinylene) (PDP-PPV) exhibited significantly different properties compared with the typical 2,5-dialkoxy substituted PPV derivs. The polymer is not only significantly blue-shifted in its optical and luminescence properties but also has high photoluminescence (PL) and electroluminescence (EL) efficiencies. Study of the model oligomer offers insight into this interesting behavior. A PPV/PDP-PPV bilayer electroluminescent device with 1.5% efficiency was prep'd. by spin coating a sulfonium precursor polymer onto ITO, thermally converting the film to PPV, spin coating PDP-PPV in chloroform onto this hole transport layer, then evapg. calcium or aluminum electrodes. A second bilayer device using poly(vinylcarbazole) as the hole-transport layer produced max. efficiencies of 0.6%.

IT 208264-13-5P

(photoluminescence and electroluminescent devices using)

RN 208264-13-5 HCAPLUS

CN Poly[(2,3-dibutoxy-1,4-phenylene)-1,2-ethenediyl] (9CI) (CA INDEX NAME)



IT 208264-13-5P

(photoluminescence and electroluminescent devices using)

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L32 ANSWER 1 OF 7 HCAPLUS COPYRIGHT 2002 ACS

2001:785486 Document No. 136:86344 Directing Energy Transfer within Conjugated Polymer Thin Films. Kim, Jinsang; McQuade, D. Tyler; Rose, Aimee; Zhu, Zhengguo; Swager, Timothy M. (Department of Chemistry and Department of Materials Science and Engineering and the Center for Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, MA, 02139, USA). Journal of the American Chemical Society, 123(46), 11488-11489 (English) 2001. CODEN: JACSAT. ISSN: 0002-7863. Publisher: American Chemical Society.

AB A striated multipolymer system comprising conjugated polymer thin films utilizes directional energy transfer to overcome the z-direction (film thickness) limitation in energy transfer. The system comprises three poly(p-phenylene ethynylene)s which have large spectral overlap between donor emission and acceptor absorption ranging from the blue to the red. Multilayers were fabricated by the Langmuir-Blodgett (LB) method starting with the shortest-wavelength polymer (1) spin-cast on a glass substrate, then 16 LB layers of the intermediate wavelength polymer (2), and finally a monolayer of the longest wavelength polymer (3), providing a film where the band gap decreases directionally from the substrate to the polymer-air interface. Emission spectra indicate that most of the energy is transferred from 1 through 16 layers of 2 to 3, demonstrating that energy can be efficiently moved in the z-direction, thereby concg. the energy at the film-air interface, which has significant implications for a turn-on sensor design.

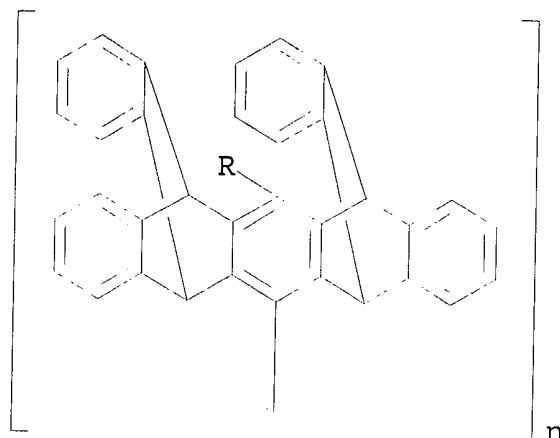
IT 386285-10-5

(directional energy transfer in substituted polyacetylene conjugated polymer multilayers across thickness)

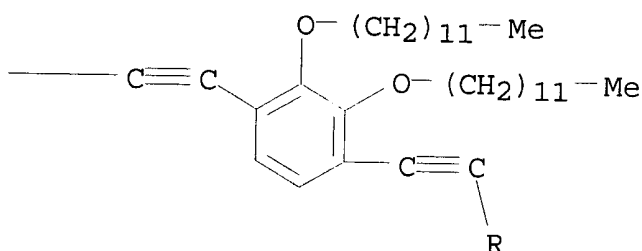
RN 386285-10-5 HCAPLUS

CN Poly[(5,7,12,14-tetrahydro-5,14[1',2']:7,12[1'',2'']-dibenzenopentacene-6,13-diyl)-1,2-ethynediyl[2,3-bis(dodecyloxy)-1,4-phenylene]-1,2-ethynediyl] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IT 386285-10-5

(directional energy transfer in substituted polyacetylene
conjugated polymer multilayers across thickness)

L32 ANSWER 2 OF 7 HCAPLUS COPYRIGHT 2002 ACS

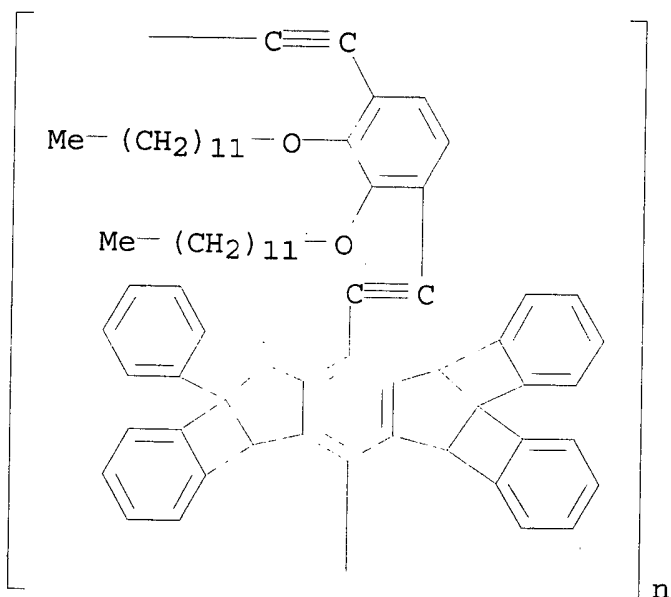
2001:716950 Document No. 136:20306 Conjugated Polymers Containing
2,3-Dialkoxybenzene and Iptycene Building Blocks. Zhu, Zhengguo;
Swager, Timothy M. (Department of Chemistry, Massachusetts Institute
of Technology, Cambridge, MA, 02139, USA). Organic Letters, 3(22),
3471-3474 (English) 2001. CODEN: ORLEF7. ISSN: 1523-7060.
Publisher: American Chemical Society.

AB New poly(phenylene ethynylene)s (PPEs) and poly(phenylene vinylene)s
(PPVs) that are highly emissive in soln. and thin films were prepd.
utilizing palladium-catalyzed cross-coupling between new
1,4-diiodo-2,3-dialkoxybenzene- and iptycene-contg. monomers. The
absorption and emission spectra of the resulting polymers
consistently showed a significant blue shift relative to the
corresponding polymer analogs contg. 2,5-dialkoxyphenylenes.
IT 378233-28-4P 378233-33-1P

(prepn. and properties of conjugated polymers contg.
2,3-dialkoxybenzene and iptycene building blocks)

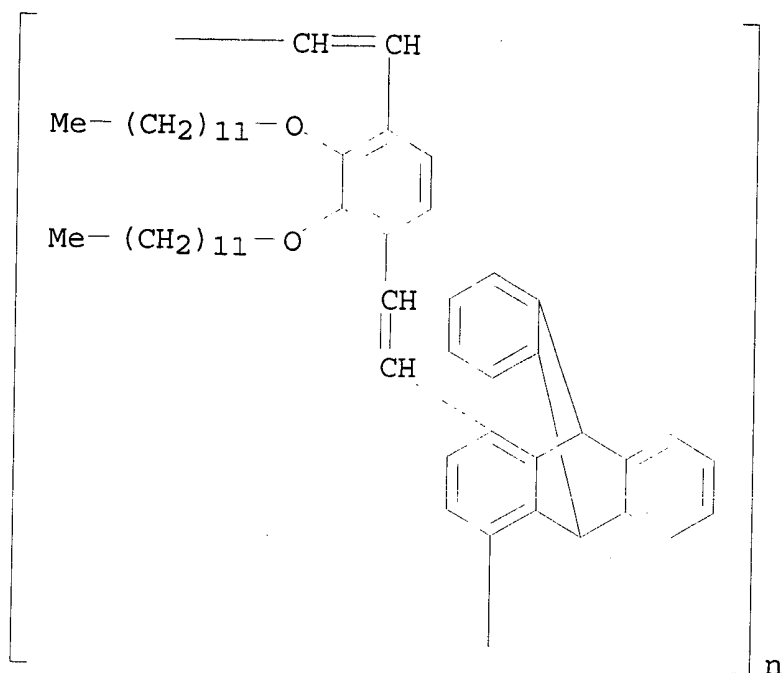
RN 378233-28-4 HCAPLUS

CN Poly[(9b,18b-dihydro-8bH,17bH-tetrakisbenzo[3,4]cyclobut[1,2-a:1',2'-b:1'',2''-g:1''',2'''-h]-s-indacene-9,18-diyl)-1,2-ethynediyl[2,3-bis(dodecyloxy)-1,4-phenylene]-1,2-ethynediyl] (9CI) (CA INDEX NAME)



RN 378233-33-1 HCAPLUS

CN Poly[(9,10-dihydro-9,10[1',2']-benzenoanthracene-1,4-diyl)-1,2-ethenediyl[2,3-bis(dodecyloxy)-1,4-phenylene]-1,2-ethenediyl] (9CI) (CA INDEX NAME)



IT 378233-28-4P 378233-33-1P

(prepn. and properties of conjugated polymers contg.
2,3-dialkoxybenzene and ipitycene building blocks)

L32 ANSWER 3 OF 7 HCAPLUS COPYRIGHT 2002 ACS

2001:52955 Document No. 134:282868 Optimization of TNT sensory polymers. Rose, Aimee; Lugmair, Claus G.; Miao, Yi-Jun; Kim, Jinsang; Levitsky, Igor A.; Williams, Vance E.; Swager, Timothy M. (Department of Chemistry, Massachusetts Institute of Technology, Cambridge, MA, 02139, USA). Proc. SPIE-Int. Soc. Opt. Eng., 4038(Pt. 1, Detection and Remediation Technologies for Mines and Minelike Targets V), 512-518 (English) 2000. CODEN: PSISDG. ISSN: 0277-786X. Publisher: SPIE-The International Society for Optical Engineering.

AB The design and synthesis of ultra-sensitive fluorescence sensing materials were reported for the detection of 2,4,6-trinitrotoluene (TNT) and 2,4-dinitrotoluene (DNT), which make use of novel energy migration mechanisms to amplify the fluorescence response. These have led to systems capable of rapid detection of TNT and DNT at the sub part-per-billion levels. Thus, the nature of energy migration in these polymer systems were examd. because this was inherent in achieving amplification and specificity. Polarization measurements and energy transfer studies between polymers were conducted in order to evaluate and maximize energy migration and hence TNT sensory response. The correlation of photophys. properties with mol. structure guided the synthesis of novel polymers with more discriminant optical responses. These synthetic efforts have yielded a library of sensing polymers with varying sensitivities to

different analytes.

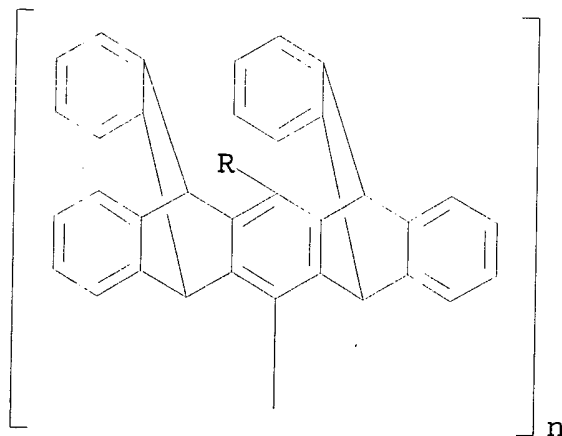
IT 260260-68-2P 260260-71-7P

(conducting polymer; in synthesis of polyphenylene-polyethynylenes as ultra-sensitive fluorescence polymers for sub-ppb detection of TNT and dinitrotoluene)

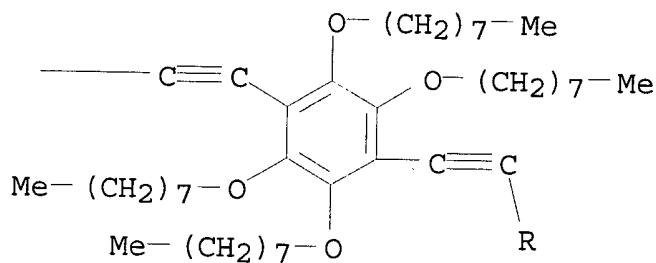
RN 260260-68-2 HCAPLUS

CN Poly[5,7,12,14-tetrahydro-5,14-[1',2']:7,12[1',2'']-dibenzenopentacene-6,13-diyl-1,2-ethynediyl[2,3,5,6-tetrakis(octyloxy)-1,4-phenylene]-1,2-ethynediyl] (9CI) (CA INDEX NAME)

PAGE 1-A

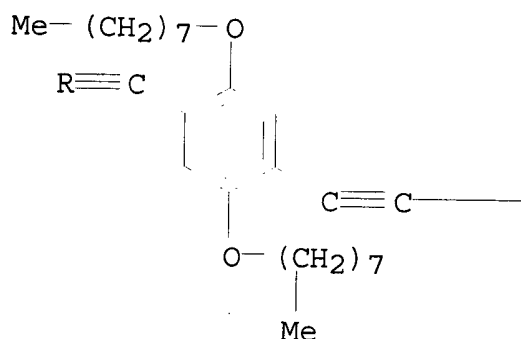
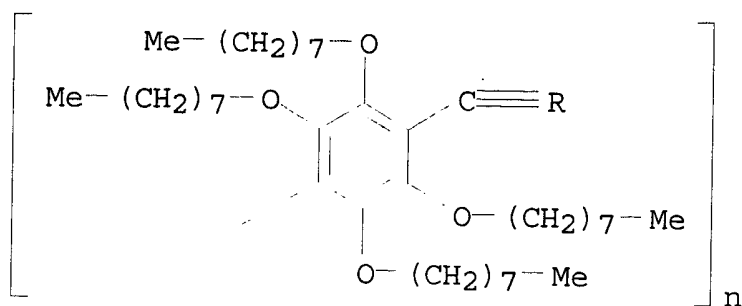


PAGE 2-A



RN 260260-71-7 HCAPLUS

CN Poly[[2,3,5,6-tetrakis(octyloxy)-1,4-phenylene]-1,2-ethynediyl[2,5-bis(octyloxy)-1,4-phenylene]-1,2-ethynediyl] (9CI) (CA INDEX NAME)



IT 260260-68-2P 260260-71-7P

(conducting polymer; in synthesis of polyphenylene-polyethynylenes as ultra-sensitive fluorescence polymers for sub-ppb detection of TNT and dinitrotoluene)

L32 ANSWER 4 OF 7 HCAPLUS COPYRIGHT 2002 ACS

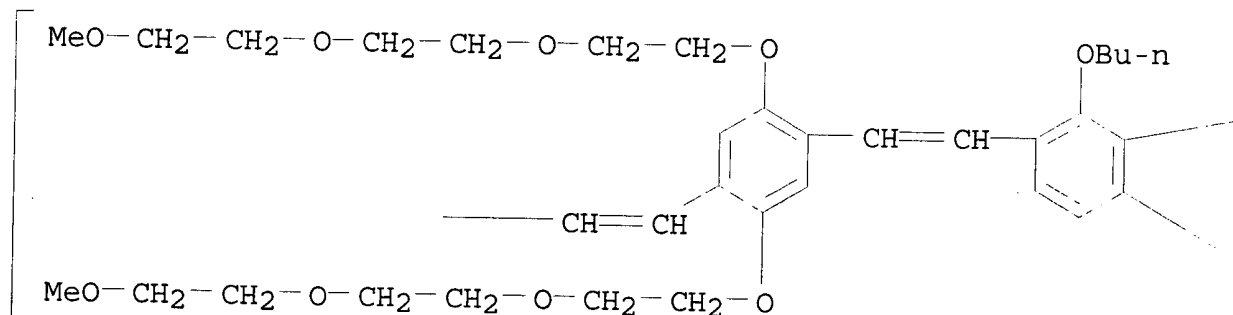
1999:742878 Document No. 132:79200 Light-emitting devices based on a poly(p-phenylene vinylene) derivative with ion-coordinating side groups. Morgado, J.; Friend, R. H.; Cacialli, F.; Chuah, B. S.; Moratti, S. C.; Holmes, A. B. (Av. Rovisco Pais, Dep. Eng. Quimica, Instituto Superior Tecnico, Lisbon, P-1049-001, Port.). J. Appl. Phys., 86(11), 6392-6395 (English) 1999. CODEN: JAPIAU. ISSN: 0021-8979. Publisher: American Institute of Physics.

AB The phase-sepn. and the optoelectronic properties were measured of an alternating poly(p-phenylene vinylene)-based copolymer, to which poly(ethylene oxide), PEO, and or lithium triflate are added. The copolymer is (DB-BTEM-PPV), i.e., 2,3-dibutoxy-1,4-phenylene vinylene and 2,5-bis(triethoxymethoxy)-1,4-phenylene vinylene, with side groups that allow ion solvation and transport. Upon addn. of ion-transporting PEO to DB-BTEM-PPV mixts. with lithium triflate, a sizeable increase in ion cond. and photoluminescence efficiency (from 0.9 to 1.5 cd/A) were obsd., with a concomitant increase of the response time. This effect is attributed to solvation and complexation of lithium triflate by PEO, which simultaneously reduces quenching of photoluminescence (and electroluminescence) efficiency by the ionic charge, and the effectiveness of formation

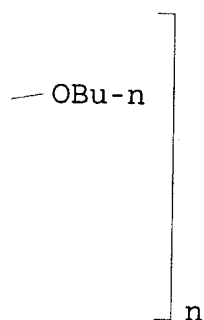
of highly doped, low-barrier, polymer/electrode interfaces. Charge transport and injection in the copolymer and in the blend are correlated to the characteristics of a test diode and to phase sepn. of PEO as obsd. by at. force microscopy.

- IT 253879-66-2D, lithium complexes
(enhanced lithium ion transport and photoluminescence efficiency in poly(alkoxyphenylene vinylene) blends with PEO in electroluminescent device assembly)
- RN 253879-66-2 HCAPLUS
- CN Poly[(2,3-dibutoxy-1,4-phenylene)-1,2-ethenediyl[2,5-bis[2-[2-(2-methoxyethoxy)ethoxy]ethoxy]-1,4-phenylene]-1,2-ethenediyl] (9CI)
(CA INDEX NAME)

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PAGE 1-B



- IT 253879-66-2D, lithium complexes
(enhanced lithium ion transport and photoluminescence efficiency in poly(alkoxyphenylene vinylene) blends with PEO in electroluminescent device assembly)

L32 ANSWER 5 OF 7 HCAPLUS COPYRIGHT 2002 ACS
1999:559084 Document No. 132:208230 Design of specific fluorescence sensory polymers for the detection of TNT. Miao, Yi-Jun; Kim, Jinsang; Swager, Timothy M. (Department of Chemistry, Massachusetts

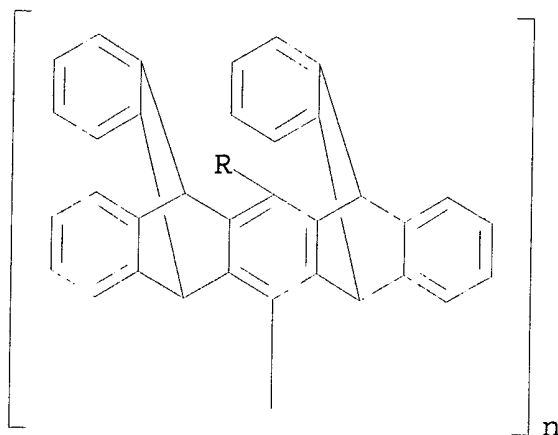
Institute of Technology, Cambridge, MA, 02139, USA). Polym. Prepr. (Am. Chem. Soc., Div. Polym. Chem.), 40(2), 825-826 (English) 1999. CODEN: ACPPAY. ISSN: 0032-3934. Publisher: American Chemical Society, Division of Polymer Chemistry.

AB Poly(phenyleneethynylene)s with electron-rich tetra-alkoxy groups and rigid triptycene moieties were prepd. These polymers are fluorescent in both soln. and solid state. Quenching studies indicate that tetra-alkoxyphenyl contg. polymers show specificity for trinitrotoluene (TNT) over 2,4-dinitrotoluene (DNT), and the effect is attributed to the predominant electrostatic interactions caused by more electron-rich nature of the conjugated polymer chains. Similar polymers with amphiphilic ethylene oxide side chains were also prepd., which display surfactant behavior at the air-water interface. LB monolayers of these polymers exhibit excellent sensitivity and selectivity toward TNT due to their well-defined thin uniform structure.

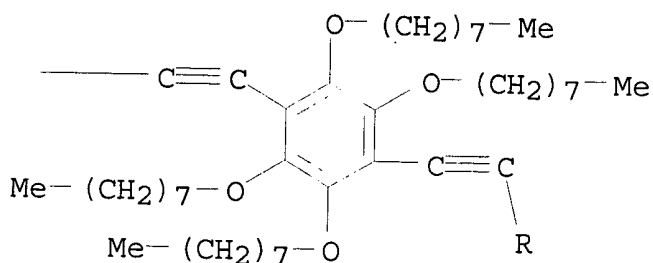
IT 260260-68-2P 260260-71-7P
(prepn. and fluorescence of poly(phenyleneethynylene)s with amphiphilic alkoxy and triptycene and ethylene oxide side chains toward development of sensors for TNT)

RN 260260-68-2 HCAPLUS
CN Poly[5,7,12,14-tetrahydro-5,14-[1',2']:7,12[1',2'']-dibenzenopentacene-6,13-diyl-1,2-ethynediyl[2,3,5,6-tetrakis(octyloxy)-1,4-phenylene]-1,2-ethynediyl] (9CI) (CA INDEX NAME)

PAGE 1-A

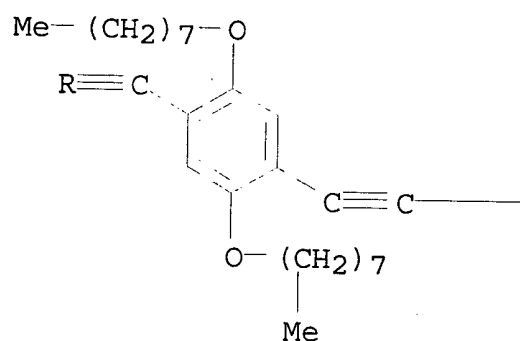
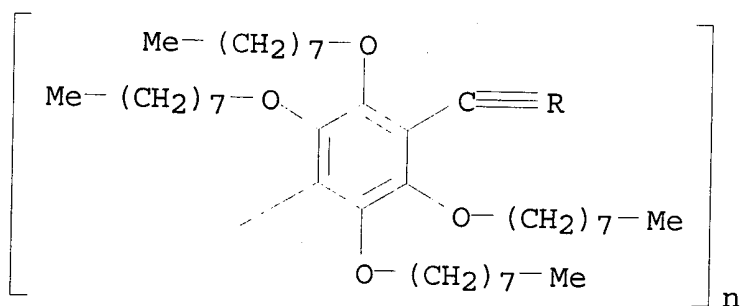


PAGE 2-A



RN 260260-71-7 HCAPLUS

CN Poly[[2,3,5,6-tetrakis(octyloxy)-1,4-phenylene]-1,2-ethynediyl[2,5-bis(octyloxy)-1,4-phenylene]-1,2-ethynediyl] (9CI) (CA INDEX NAME)



IT 260260-68-2P 260260-71-7P

(prepn. and fluorescence of poly(phenyleneethynylene)s with amphiphilic alkoxy and triptycene and ethylene oxide side chains toward development of sensors for TNT)

L32 ANSWER 6 OF 7 HCAPLUS COPYRIGHT 2002 ACS

1992:517684 Document No. 117:117684 Separation of lead(2+) using a neutral pendant crown ethers mediated emulsion liquid membrane systems. Lee, Chong Kwang; Lee, Bu Yong; Kim, Jong Hyang; Cho, Mun

Hwan (Dep. Chem., Gyeongsang Natl. Univ., Jinju, 660-701, S. Korea).
Pollimo, 16(3), 328-35 (Korean) 1992. CODEN: POLLDG. ISSN:
0379-153X.

AB [(Acryloyloxy)methyl]benzo-18-crown-6 (I) was synthesized by reacting 4'-hydroxymethyl benzo-18-crown-6 with acryloyl chloride. Poly[[(acryloyloxy)methyl]benzo-18-crown-6] (II) was prepd. in C₆H₆ using AIBN as an initiator. The disappearance of metal ions from the source phase as a function of time was studied in emulsion liq. membrane systems comprising an aq. source phase [0.001 mol M(NO₃)_n/L (Mn⁺ = Na⁺, Mg²⁺, Ca²⁺, Sr²⁺, Ba²⁺, Zn²⁺, Cu²⁺, Cd²⁺, Mn²⁺, Pb²⁺)], a PhMe membrane contg. of the macrocyclic ligand (I and II) and the surfactant Span 80, and an aq. Li₄P207 receiving phase. In an expt. on metal ion transport using this emulsion liq. membrane, the Pb²⁺ ion transport was higher than that of other metal ions.

IT 143114-04-9P

(prepn. and use in liq. membrane for lead removal from wastewater and water)

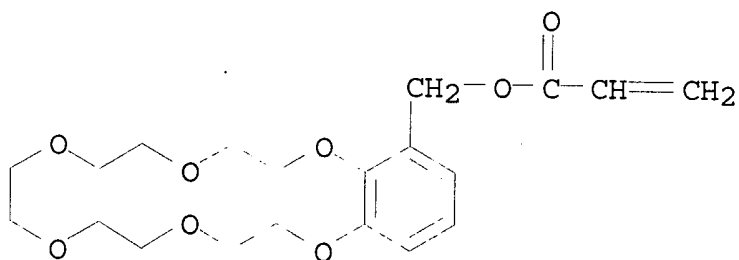
RN 143114-04-9 HCAPLUS

CN 2-Propenoic acid, (2,3,5,6,8,9,11,12,14,15-decahydro-1,4,7,10,13,16-benzohexaoxacyclooctadecin-17-yl)methyl ester, homopolymer (9CI)
(CA INDEX NAME)

CM 1

CRN 143113-40-0

CMF C20 H28 O8



IT 143114-04-9P

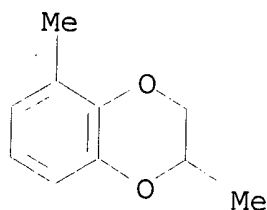
(prepn. and use in liq. membrane for lead removal from wastewater and water)

L32 ANSWER 7 OF 7 HCAPLUS COPYRIGHT 2002 ACS

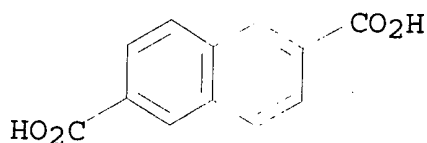
1977:156212 Document No. 86:156212 Aromatic high polyketones. Uno, Keikichi; Niume, Kazuma; Makamichi, Kazuya (Maruzen Oil Co., Ltd., Japan). Japan. Kokai JP 52009099 19770124 Showa, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1975-85537 19750711.

AB Arom. polyketones such as diphenyl ether-isophthalic acid copolymer (I) [30420-39-4] were prepd. by using AlCl₃ or a similar chloride as a catalyst and polyphosphoric acid as a solvent. Thus, a mixt. of 0.01 mole Ph₂O, 0.01 mole isophthalic acid, 50 g polyphosphoric acid, and 0.001 mole AlCl₃ was heated at 150.degree. for 8h to prep.

IT I.
62487-76-7P
(prepn. of)
RN 62487-76-7 HCAPLUS
CN 2,6-Naphthalenedicarboxylic acid, polymer with 2,3-dihydro-2,5-dimethyl-1,4-benzodioxin (9CI) (CA INDEX NAME)
CM 1
CRN 62487-75-6
CMF C10 H12 O2



CM 2
CRN 1141-38-4
CMF C12 H8 O4



IT 62487-76-7P
(prepn. of)